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THE JOURNAL OF THE BRITISH VETERINARY ASSOCIATION

# The Veterinary Record

PATRON: HER MAJESTY THE QUEEN

Vol. 73 No. 11 Issue No. 4321 257-282 Registered as a Newspaper

***Publication this month***

# DISEASES OF THE PIG

**D. S. ANTHONY,** M.R.C.V.S., D.V.S.M., F.R.S.H.

Chief Veterinary Surgeon, Brierley Hall, Staffs ; Examiner in Meat and other foods to the Royal Society for the Promotion of Health ; One time examiner in Anatomy to the Royal College of Veterinary Surgeons.

**E. F. LEWIS,** M.R.C.V.S., F.R.S.H.

Department of Medicine, Royal Veterinary College, London ; Examiner in Veterinary Medicine to University of London ; Examiner in Meat and other foods to the Royal Society for the Promotion of Health.

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Founded by William Hunting, F.R.C.V.S., in 1888

Volume 73
No. 11

SATURDAY, MARCH 18th, 1961

7 Mansfield Street,
London, W.1.
Museum 6541

## The Provision of Antibiotics

IN our leading article last week it was suggested that the sale to clients of restricted drugs should not be regarded as a legitimate contribution to professional income. That view was expressed on ethical grounds; but, at least in the case of penicillin and other antibiotics, there are highly practical, indeed legal considerations involved, to which attention may usefully be drawn.

The availability of antibiotics is regulated by statute, which restricts the supply of these substances to veterinary surgeons, doctors, and a very limited number of other professional men and women; and a part of Section I of the Penicillin Act of 1947 reads as follows: "No person shall sell or otherwise supply any substance to which this Act applies . . . unless he is a registered . . . veterinary surgeon or a person acting in accordance with the direction of any such surgeon.

"No person shall administer by way of treatment any such substance or preparation unless he is such a surgeon . . . or is acting in accordance with the direction of such a surgeon."

Quite apart, therefore, from ethical considerations it is a contravention of the law for veterinary surgeons to supply antibiotics to be used simply on a client's own initiative. To leave a limited supply behind for further treatment after the patient has been seen and suitable directions given is a different matter; the farmer then would be acting "in accordance with the direction of such a surgeon," and both parties would be protected. Nor is the statute law the only authority so far as the veterinary surgeon is concerned: in its Annual Report for the year ending March 31st, 1960, the Council of the Royal College stated that, "it would be highly improper to leave stocks of penicillin, or similar products, at a farm to be used at the discretion of the client." It may be added that the Pharmaceutical Society has, on occasion, taken action against pharmacists who sold antibiotics without prescription to farmers or other persons outside the scope of the Act, and it would be regrettable indeed if any veterinary surgeon were proved to have contravened the law and offended against the profession's ethical code by doing the same thing.

In this connexion it is necessary to remember that professional men and women, like other employers, are legally responsible for the actions of their servants. It would be no excuse, therefore, to plead that an antibiotic had been made available, outside prescription, by a lay assistant unknown to the principal, assuming that the latter had taken reasonable measures to see that this did not occur.

It is realised that compliance with the law may lead occasionally to some degree of friction with clients, or become embarrassing when clients are personal friends. The difficulty is not lessened by the fact that a section of the farming community sees no reason why antibiotics should not be directly accessible to owners of livestock. The reasons why this should not be permitted were succinctly expressed by a former President of the B.V.A. who said, in his annual address:—

"One may be surprised that even to-day many people connected with agriculture apparently fail to realise that accurate diagnosis is the key to successful, and, just as important, economic treatment or prophylaxis . . . I am sure we are right, and the pharmaceutical industry is right, in maintaining that these agents should be supplied only to veterinary surgeons or upon their prescription."

Nevertheless, at least part of the farmers' pressure for the free availability of antibiotics is their belief that our monopoly of these substances is open to abuse, and to quote the former President again "... this confers on us a serious responsibility and we must take good care that no just reproach can be levelled against us regarding the cost of these substances supplied to our clients."

Be that as it may, members of the profession must, in their own interest if in no other, resist the temptation to "oblige" clients by trading in restricted drugs, and must resist all pressures brought upon them; and this is practicable, it may be suggested only if scrupulous loyalty obtains between neighbouring practitioners.

Veterinary surgeons, then, are answerable under statute and under the Veterinary Surgeons Act 1948, for the provision, by them, of antibiotics to clients; but on the ethical plane it would seem that the whole matter is really one of professional conscience and pride.

# Recent Advances in the Treatment of Skin Diseases With Special Reference to Griseofulvin*

BY

OLGA UVAROV

Glaxo Laboratories Ltd., Greenford, Middlesex

*SUMMARY.—The paper deals with some of the common skin diseases encountered in practice. Some drugs used in their treatment are described, with special reference to griseofulvin. Preliminary results with griseofulvin indicated that it can be of value in the treatment of ringworm infection in animals at an average daily dose of 40 mg. per kg., but duration of treatment depends on the species. There were no side effects throughout these trials.*

DESPITE considerable advances in veterinary medicine the aetiology of not a few skin diseases remains unsolved and treatment unsatisfactory. The incidence of these diseases in small animals is high. In the last few years many different drugs have been introduced for treating dermatological conditions, and there has thus been little time for their real evaluation. It is likely, however, because some of these substances show a specificity of action demanding improved diagnosis before their use, that this in itself may help eventual elucidation of some of these conditions. One example of such specificity of action in dermatomycosis is the use of griseofulvin, an antibiotic with antifungal properties specific to fungi of the dermatophyte group; it will be described later in the paper.

It is possible to discuss here only a few of the commoner skin disorders and some of the drugs currently in use.

The drugs chiefly used can be classified according to their action:—

(1) Antimicrobial.
(2) Anti-inflammatory.
(3) Antifungal.
(4) Others (antiseptics, antihistamines, antiparasitics, hormones, etc.), which are not within the scope of this review.

## 1. Antimicrobials

In this group are included sulphonamides and antibiotics. The introduction of sulphonamides was so quickly followed by that of penicillin and other antibiotics that their evaluation was probably never completed. For topical application sulphonamide, as a powder or cream, is however of use in some cases. The action of antibiotics is now well known, and many of them have been used for the treatment of skin diseases by parenteral and by local use. On the whole this therapy is not frequently used, and antibiotics appear to be mostly of value when used with corticosteroids applied topically or parenterally. Penicillin in ointments, in particular, is not of much value. Along with streptomycin it can still be of use in some cases of furunculosis or pustular dermatitis and in some ear infections. Kylin and Wall (1955), in their *in vitro* studies on the combined use of penicillin and streptomycin against 276 strains of bacteria isolated from ear infections, showed that sensitivity tests confirmed the synergistic action of penicillin and streptomycin. It was also indicated that this combination of antibiotics should be of therapeutic value. At times the parenteral, combined administration of these antibiotics can be of some value. Some practitioners appear to find that broad spectrum antibiotics, in particular chloramphenicol, can be of help. Other antibiotics, such as neomycin alone (Davidson, 1952), or along with bacitracin, polymixin, or these substances together, particularly with corticosteroids, can be of value for topical application in small-animal dermatoses. In some skin diseases infection may be due to several bacterial species; because aetiological diagnosis is rarely possible, practitioners employ topical antimicrobial preparations that are active against both Gram-positive and Gram-negative organisms. The combined use of these antibiotics should, therefore, be of value in skin diseases, but their further evaluation is required in veterinary dermatology (Konde, 1958).

## 2. Anti-inflammatory Drugs

The dermatitis-eczema group includes most of the skin diseases encountered in small animals, but their precise cause is by no means clear. It is generally supposed that an allergic reaction occurs, resulting in a superficial inflammatory change, characterised by formation of scaly and fissured condition of the surface layers, serous discharge, irritation and pain, complicated by self-inflicted damage. The first and foremost objective in the treatment of skin diseases is to relieve pain and irritation and thus prevent the animals from licking or scratching and so extending or aggravating the lesion. The suppression of such symptoms can be achieved by several groups of drugs, for example:—

(i) Local anaesthetics—sometimes included in various ointments—benzocaine has been frequently so used.

(ii) Anticholinergics—substances with atropine-like action that are said to antagonise the action of acetylcholine at parasympathetic nerve-endings. One of such drugs is diphenylmethanil methyl-sulphate which has been developed in U.S.A., but has not been used in this country.

* This paper was presented to a meeting of the Royal Counties Veterinary Association, February 26th, 1960, at Reading.

FIG. 1.—Senile Dermatitis—before treatment.

FIG. 2.—Close up of above then treated for 3 weeks.

FIG. 3.—After treatment—five weeks after first examination.

FIG. 4.—*T. verrucosum* before treatment.

FIG. 7.—*T. verrucosum* before treatment.

FIG. 5.—After treatment.

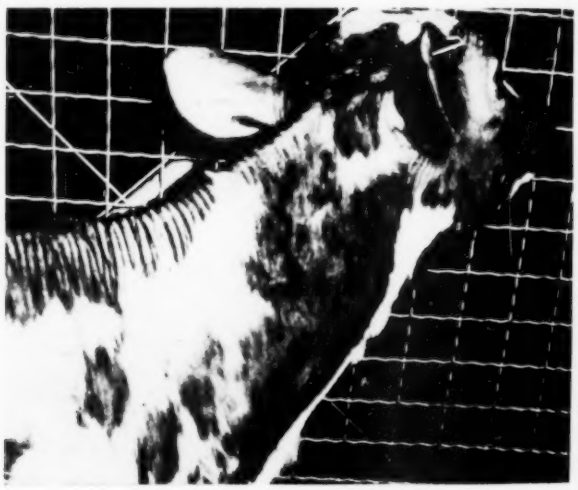

FIG. 8.—After treatment.

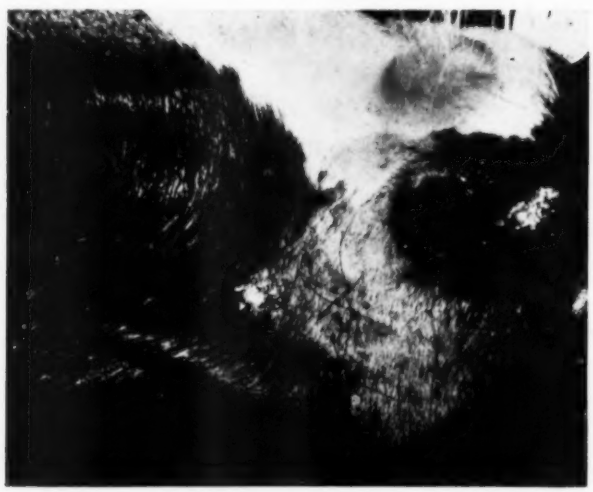

FIG. 6.—After treatment.

FIG. 9.—After treatment.

FIG. 10.—*M. canis* before treatment.

FIG. 11.—*M. canis* after treatment.

FIG. 12.—*T. mentagrophytes* before treatment.

FIG. 13.—*T. mentagrophytes* after treatment.

(iii) Corticosteroids.

(iv) Glycyrrhetinic acid—a non-steroidal anti-inflammatory substance. Some but not all of its isomers can be effective; others are completely ineffective. Controversy on its clinical efficacy exists as a result of both human and veterinary trials, but Phillips and Somers (1958) in their trials found that active isomers of this substance can be of value in some conditions.

In my view it is only the corticosteroids that are of proven value.

*The Adrenal Steroids*

These are under the control of adrenocorticotrophic hormone (ACTH), which was itself used formerly. Uvarov (1958 and 1959) reviewed their chief uses. These steroids are generally divided into 3 groups (a) glucocorticoids, which in addition to their effect on carbohydrate metabolism have also anti-inflammatory and anti-allergic effects, (b) mineral corticoids and (c) sex steroids, the significance of which in clinical medicine is not fully understood; they may play a part in some skin conditions associated with sex disorders.

Because of their anti-inflammatory action, cortisone, hydrocortisone and later derivatives have been successful in the treatment of many inflammatory skin diseases. They may be used both systemically and topically. Their anti-inflammatory action is shown as a reduction in hyperaemia, swelling, cellular exudation and pain, *i.e.* in the disappearance of physical signs of inflammatory response. This effect is non-specific and occurs whether the initial causal agent is allergic, bacterial or physical.

Hydrocortisone is more active than cortisone in topical application, and the action is said to be due to its direct local hormonal effect at cell level. No sensitisation due to the hormone itself has been reported, and there is no absorption of the steroids, except from some of the more potent fluorinated compounds. There are large numbers of these steroid compounds now evolved, but it is essential to evaluate properly the original substances before embarking on the use of the many other derivatives now being produced.

There are many clinical reports indicating that corticosteroids produce good results in most skin diseases. In addition these substances are important for the treatment of acute inflammatory ear conditions in dogs. Dall (1958) stated that 80 to 90 per cent. of skin conditions treated in small animals can be improved by corticosteroid therapy. Some cases undoubtedly relapse, particularly if treatment is stopped suddenly. This should be avoided by gradual withdrawal of treatment. Other derivatives, such as prednisolone, are also now used, and many combinations of antibiotics and corticosteroids are producing good results in the treatment of dermatoses (see for example Davidson, 1954; Schultz, 1955; Sears, 1959). Prednisolone given orally also produces good results in the treatment of senile dermatitis in dogs—see Figs. 1 to 3 Thomsett (1960).

Because corticosteroids can exert potent hormonal effects if given parenterally, it is preferable to use them by topical application when the lesions are not extensive; the systemic use should be reserved for generalised conditions or in conjunction with external application of antibiotics if corticosteroids are used for a long time. Undoubtedly corticosteroids have a wider sphere of activity than any other drugs in the treatment of skin diseases.

**3. Antifungal**

*Ringworm infection*

In this disease infection occurs in the superficial keratinised layers of the skin, hair or feathers and is caused by a group of fungi, collectively termed dermatophytes. It has long been assumed that animals are an important source of infection for man (La Touche, 1955; Mortimer, 1955; Blank, 1955; Georg, 1954), but the disease is self-limiting, and little attention has been paid to its treatment, particularly in cattle. Because it is also possible to have a non-fungal disease mimic a fungal one, confirmation of diagnosis by laboratory methods is essential. Such facilities have, however, not been readily available.

Several agents showing some antifungal properties *in vitro* have been introduced. Amongst these are:—

(1) Hexadecamethylene - bis - (isoquinolinium chloride) ("Tinevet").
(2) N-trichloromethylmercapto - 4 - cyclohexene -1, 2-dicarboximide ("Captan"—Ortho tack wash).
(3) Selenium sulphide ("Seleen").
(4) Benzalkonium chloride ("Xydermo").
(5) Iodochlorhydroxyquinoline ("Vioform").

All these were used by topical application and some clinical success was obtained, but control trials were not always possible. A large number of substances were so tried, but none was wholly satisfactory Kaplan (1959), McPherson (1959). It is now recognised that their deficiency is probably due to their inability to penetrate the keratin of skin or hair to the site of infection (Wilson, 1957; Gentles, 1958).

Wilson (1955) states that the "ideal antifungal drug even for superficial mycoses would seem to be one which could be safely administered internally in amounts sufficient to endow the cells eventually destined to produce keratin with power to resist fungi completely, this power persisting as they become keratinised, the drug thus exerting its effect from within outwards." Such a drug, griseofulvin—an antibiotic—has in fact been in existence since 1939, discovered by Oxford, Raistrick and Simonart as a metabolic product of a penicillium. Brian, Curtis and Hemming (1946) also isolated from *Penicillium janczewskii* a "curling factor," so called because it caused fungal hyphae to curl. Grove and McGowan (1947) showed that "curling factor" and griseofulvin were identical.

Its activity as a systemic fungicide was demonstrated against some fungi in plants, and it was used as an antifungal agent in agriculture. Gentles (1958) was the first to report the successful oral treatment of *Microsporum canis* and *Trichophyton mentagro-*

*phytes* infection in guinea-pigs with griseofulvin. Lauder and O'Sullivan (1958) tested it on calves exposed to artificial infection with *Trichophyton verrucosum* and showed that ringworm in these animals could in this way be prevented and treated. Since then much has been published in the medical press on this antibiotic, which has been hailed as yet another "wonder drug"—a major breakthrough in the field of dermatology.

### The Antibiotic

Griseofulvin (7 - chloro - 4 : 6′ : 2′ - trimethoxy - 6′ - methylgris-2′-en-3 : 4′-dione) is a colourless crystalline neutral compound, insoluble in water or light petroleum, soluble in chloroform and in acetone. It is very stable. It can now be produced by large scale fermentation techniques in substantial quantities.

After oral administration the antibiotic can be detected in a number tissues, including skin and hair (Gentles *et al.*, 1959). The antibiotic is taken up by the precursor cells of keratin, so that the new keratin and hair produced are resistant to fungal infection. Griseofulvin is not taken up by the fungus—it only acts on the outside of the cell wall.

*Antifungal activity. In vitro*, griseofulvin is active against many of the dermatophytic fungi, including: *Trichophyton rubrum, mentagrophytes, interdigitale, verrucosum, sulphureum* and *schoenleini; Epidermophyton floccosum; Microsporum audouini, canis* and *gypseum*.

Griseofulvin is not active *in vitro* against *Candida albicans* (monilia) or against actinomycetes. *In vitro* activity against aspergilli is slight, and experience with animals indicates that this antibiotic is unlikely to be effective against internal mycoses. Griseofulvin has no antibacterial activity.

*Absorption, distribution and excretion of griseofulvin in animals*

It has been shown by Child and Tomich (1959) that peak blood levels of griseofulvin occur in the blood 4 hours after its oral administration. The antibiotic is found concentrated in the liver, skin, skeletal muscles and fat. It is chiefly absorbed from the small intestine, in the (decreasing) order—duodenum, jejunum, ileum and colon. During the 24 hours after dosing 16 per cent. of the griseofulvin was excreted in the faeces and 0.14 per cent. in the urine. Griseofulvin was detected in goats' milk within 4 hours of dosing.

*Toxicity.* Given by mouth the toxicity of griseofulvin to laboratory animals is extremely low. Ten times the therapeutic dose has been given to cats for several weeks without ill effects. The antibiotic has been fed for over a year at 10 times the therapeutic level to dogs, which remained normal. The antibiotic has also been given orally to calves at 10 times the therapeutic dose for 3 weeks; on *post-mortem* examination, gross and histological examinations revealed no abnormalities. Griseofulvin given in near-lethal doses of 200 mg. per kg. by intravenous injection to rats caused a transient mitosis in bone marrow. This procedure is far removed in quantity and route from the usual one, and the findings are of no practical significance. Laboratory animals, including dogs and cats, remained normal and continued to breed during toxicity tests with griseofulvin.

### Ringworm in Animals

1. **The disease**

For convenience the pathogenic fungi can be divided into 3 groups:—

(i) The anthropophilic dermatophytes (human pathogens).

(ii) The zoophilic dermatophytes (animal pathogens).

(iii) Geophilic species (saprophytic soil fungi), under certain conditions these can be pathogenic to man and animals.

The Table on page 261 indicates the pathogenic fungi of particular importance in the causation of ringworm.

The disease and its typical lesions are well known to clinicians, but from some reports (La Touche, 1952; 1953), and some present investigations, it is the atypical case with no visible obvious lesions that defies diagnosis merely by clinical means. Moreover, it has always been assumed that animals form a large reservoir of infection to man. The occurrence of infection from animal to man has been reported (Walker, 1950; La Touche, 1952; Gentles & O'Sullivan, 1957; La Touche, 1953; Georg, 1954; Ainsworth & Austwick, 1959, etc.), and it seems clear that facilities for better diagnosis are essential.

2. **Clinical use of griseofulvin**

(a) *Cattle.* Bovine ringworm is widespread in Great Britain (Ainsworth & Austwick, 1955). Lauder and O'Sullivan (1958) were able to show that griseofulvin in doses of 60 mg. per kg. given once daily prevented the establishment of experimental infection of *T. verrucosum* in calves, though controls became affected.

For treatment, dosage and duration of treatment have been varied. In general, whether animals were infected experimentally or developed the infection under field conditions, griseofulvin produced encouraging results at doses ranging from 30 to 60 mg. per kg. daily for 10 to 20 days.

In subsequent trials excellent results were obtained with 40 mg. per kg. for 10 days: there was a reduction of scabs, and hair grew on several animals once the scab disappeared. The fungus was viable so long as the scab was present. Sometimes the animals were clear of infection 18 days after treatment began, as shown in Figs. 4, 5, 6, 7, 8, and 9. At times the normal course of the disease, 3 to 5 months (Ford, 1956), was reduced to 5 to 8 weeks by daily use of griseofulvin for 7 to 10 days. Recovered animals appear to be highly resistant to re-infection. Other trials have indicated that clinical recovery can be observed as soon as 7 to 10 days after beginning treatment, particularly if the infection is treated early.

It is unfortunate that at present considerations of cost preclude the general use of griseofulvin for treating cattle. *T. verrucosum* contracted by man

SOME COMMON DERMATOPHYTES

| Anthropophilic Species | Usual site of infection | Zoophilic Species | Animal Host | Geophilic Species | Animals affected |
|---|---|---|---|---|---|
| *Trichophyton rubrum* | Foot, body, particularly nail | *Trichophyton verrucosum* | Cattle ; occasionally dogs and horse | *Microsporum gypseum* | Horse ; dog ; man |
| *Trichophyton sulphureum* | Scalp and body of children, nails and body of adults | *Trichophyton mentagrophytes* | Many animals ; also carried as saprophyte on rodents | *Keratinomyces ajelloi* | Squirrel; experimentally in guinea-pigs |
| *Trichophyton schoenleini* | Favus, scalp and body | *Trichophyton equinum* | Horse | | |
| *Trichophyton mentagrophytes* (interdigitale strain) | Foot | *Microsporum canis* | Cat, dog | | |
| *Epidermophyton floccosum* | Foot, groin | *Microsporum equinum* | Horse | | |
| *Microsporum audouini* | Scalp and body of children | *Microsporum gypseum* | Horse; dog; cat; also saprophyte in soil | | |

from cattle has been successfully treated with griseofulvin (Cochrane & Tullett, 1959).

(b) *Cats.* Several workers have reported the use of griseofulvin* for treating *M. canis* infection in the cat with doses ranging from 40 to 60 mg. per kg. per day (including Bunting, 1960; Lauder, 1960; McPherson, 1960; Wright, 1959; Thomsett, 1960).

Kaplan and Ajello (1959) reported the successful use of griseofulvin in the treatment of 22 cats ranging from 1 month to 4 years of age. Daily treatment was at the rate of 40 to 60 mg. Eighteen animals had visible lesions; of these 10 became clinically normal in 3 weeks, 6 in 4 weeks and 2 in 5 weeks. Disinfectant baths were given to some as supportive therapy. As to side effects, only one animal developed a generalised pruritis, but this disappeared after treatment had ended.

Keep (1959) treated 2 kittens 8 weeks old with a daily dose of 40 to 60 mg. per kg. The hair of these kittens was clipped completely and grew again quickly, but no difference in fluorescence was detected until the twentieth day of treatment. It was then noticed that fluorescence was decreasing; some hairs fluoresced only at the tips, but on culture were still found to be infected. By the 44th day only a few facial hairs fluoresced and were negative on culture.

Other workers have reported on the use of griseofulvin. Campbell Dickson (1959) treated some cats with good results, but noted that a higher dose rate is required than in the dog, as much as 100 mg. per kg. McCormick (1960) also treated a number of cats, 2 of which responded in approximately 6 weeks to a dosage of 250 mg. daily. Lauder (1959) treated *M. canis* infection in cats with good resuts. Horning (1959) reported satisfactory results in many cats, including an in-kitten queen.

*M. canis* and *T. mentagrophytes* infections have been treated in several other trials. At present treatment is being carried out by me in other catteries where *M. canis* infection is widespread. The approximate dose being used is 40 to 60 mg. per kg. for 3 to 8 weeks. In Persian cats the response is slower, and treatment has sometimes had to be continued for 11 or even 17 weeks. Because the hair of Persian cats is longer than that of other breeds, clipping at the beginning of treatment and frequent brushing may possibly hasten recovery. Supplementary bathing to eliminate surface infection may also be indicated.

Less satisfactory results have occasionally been obtained and further necessary evaluation of the drug in this species is in progress.

(c) *Dogs.* In dogs artificially infected with *M. canis* and *T. mentagrophytes* griseofulvin in daily dose of 25 mg. per kg. eradicated the infection in 12 to 14 days (Robinson, 1959).

Animals infected with *T. mentagrophytes, T. verrucosum, M. canis* and *M. gypseum* have been treated in practice. In general good results were obtained with a daily dose of 25 to 60 mg. per kg. for 3 to 5 weeks, as for example reported by Lauder (1960), McPherson (1960). Ablett and Gill (1960) treated 4 boxer puppies infected with *M. canis*, using approximately 25 mg. per kg.*, and obtained response after 28 days of treatment. (See Figs. 10 and 11.)

Less satisfactory results have also been encountered in a few animals; these may be associated with the use of high doses. A poor response to high doses has been noted in cattle.

(d) *Chinchillas.* The disease caused by *T. mentagrophytes* is sometimes referred to as fur fungus or "fur slipping." It has been described by Blank *et al.* (1953), Rowsell and Kennedy (1954), Hayes (1956), Kelly and Anthony (1959), McPherson (1960). Several workers have demonstrated the fungus from this infection. Transmission of the dermatophyte from animal to man has been reported, Rowsell

* Grisovin, Glaxo.

* Grisovin, Glaxo.

(1954). Since the disease was diagnosed in this country last year, more than 60 chinchillas have been treated with 30 to 60 mg. per kg. per day for 4 to 5 weeks. Clinical results were good. (See Figs. 12 and 13.)

In general, improvement is noted during the second week of treatment but recurrence of lesions may take place if treatment has been begun early in the outbreak. The questions of developing immunity to this disease, the importance of environmental factors and the degree of spontoneous cure in chinchillas require further elucidation.

(e) *Chickens.* Fowl favus due to *Trichophyton gallinae* is extremely rare in this country (Carnaghan *et al.*, 1956). Only one outbreak has been encountered. A small number of birds were treated with griseofulvin and failed to respond to 40 mg. per kg. daily. These poor results may be partly due to inadequate absorption of this drug, since approximately 90 per cent. of the administered dose was recovered in the faeces during the 24 hours after a single dose. Moreover the infecting strain of *T. gallinae* was not very sensitive to griseofulvin. These findings, however, are based on limited observation, and further work on the condition is required.

*Acknowledgments.*—I thank many colleagues in practice, in different laboratories and in our organisation for collaborating in some of the work here reported. Special thanks are due to all practitioners who reported their findings, to Messrs. Lauder and O'Sullivan for their original work on griseofulvin, to Mr. L. R. Thomsett for permission to use his illustrations, to Mr. P. K. C. Austwick for his services to veterinary mycology and to Mr. D. Boxall for his photographs here included.

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## ANIMAL HEALTH TRUST FELLOWSHIPS AND SCHOLARSHIPS

Applications are invited for appointments to Wellcome Fellowships for whole time research in connexion with veterinary science or medicine, from any person who on October 1st, 1961, is under 36 years of age and holds the Membership Diploma of the Royal College of Veterinary Surgeons or a good degree in any faculty relevant to veterinary science or medicine in any university in the British Commonwealth and Empire.

A Fellowship may be awarded at an annual value of £850 rising by annual increments of £50. The Fellowship is subject to income tax and carries benefits under the F.S.S.U.; it is tenable for one year in the first instance and by annual reappointment for a further period of two years at the discretion of the Advisory Committee. Election will be made in June, to take effect as from October 1st, 1961. The closing date for receipt of application is Friday, May 12th, 1961. Forms of application are obtainable from: The Scientific Director, The Animal Health Trust, 14 Ashley Place, Westminster, London, S.W.1.

A few Research Training Scholarships are offered by the Animal Health Trust to recent graduates in veterinary medicine or natural science.

These scholarships to the value of £500 per annum will be exempt from income tax and will carry a grant not exceeding £60 per annum towards the payment of essential fees. Applicants must be desirous of entering upon a research career connected with veterinary medicine. Forms of application can be obtained from The Scientific Director. The closing date for the receipt of applications is May 12th, 1961.

SYMPOSIUM*

# The Presentation of Scientific Papers

E. L. Taylor : Charles Mitchell : Per Saugman

## 1.—The Author's Point of View

E. L. TAYLOR
Central Veterinary Laboratory, Weybridge

AFTER some thought about the precise meaning of "point of view" in the sub-title of this symposium, and having tried to compare the author and the reader in that respect, I concluded that their two points of view are more than complementary, they are almost identical, it being the author's wish to express his thoughts in such a way that they are reflected back from the printed page and are seen by the reader as they are seen by himself. The position of the editor and the publisher is similar in that their main consideration also is to give the reader what he wants. Author, editor and publisher, therefore set out to work sweetly together for the reader's pleasure and, doubtless they would work together in this way, but for the frailty of human nature; the publisher would so order the requirements of his *mise en page* as to meet the author's ideal for size of illustration and place in text, the editor would advise the author out of pure reason how best to make his appeal, and it would be the author's delight to accept the wisdom of experience. That, however, occurs only in some far-away country, where there is a perpetual springtime and research workers never grow old. We must deal with things as they are. In this life of imperfections, "point of view" appears to imply "different point of view," or even "opposite point of view," and it is only natural that the opposing one should be regarded as the wrong one. Perhaps the best approach to the author's point of view is to consider that of a perfect author, or—in order to keep in touch with reality—that of a proficient author. How does he work, and what does he require?

### The Perfect Author and his Work

It is probably through hard work that he has become proficient. There are two essentials for the writing of a good article, the first is a great desire to do it, and the second to be able to distinguish between what is good and what is bad. Anyone who has those two qualities will automatically be provided with the necessary energy, and in the end will succeed, the measure of his success being determined by the fineness of his discrimination between what is good and what is not quite so good. It is this developed power of discrimination that causes the good writer to go over his work a dozen times and never to be satisfied. Of the two needs there can be no doubt that the desire to do it is the more important, the other can often be acquired, and the first step towards that is to learn the habit of reading critically, so that self criticism may develop.

It may seem to be using high-sounding words if I refer to the best type of scientific paper as an "artistic creation." Such it is, however; in the first place it is an idea in a man's mind, then it takes the form of a material creation, and remains as printed evidence of individuality. Presumably this is the reason for authors becoming so easily upset by any slightest breath of criticism, and for the ill feeling that is apt to arise between author and editor.

### Accord Between Presentation and Purpose of a Paper

This is the first consideration before putting pen to paper. Our "perfect author" does not contribute to *The Journal of Unjustifiable Conclusions*, nor to *The Annals of Defended Mistakes;* the task before him is the simple transference of an honest idea from one mind to another, through the process of reading the written word. There are, however, several kinds of reading. I remember listening with interest to a broadcast talk by Desmond Macarthy on the art of reading, and having been rather pleasantly surprised—being a slow reader myself—to hear his opening words. "For anyone who wishes to appreciate good literature the first thing is to learn to read slowly, to let every word sound in one's head and to feel the rhythm of the sentences." He then went on to say that there are several different kinds of reading. If one seeks the kind of recreation to be got out of a detective story, or some narrative of exciting incidents in the Rocky Mountains, then the faster one can turn over the pages without actually skipping anything the more satisfaction may one get from the rapid sequence of events—let them shoot and shoot quickly. A book of instruction calls for a third kind of reading. Here one may be interested only in parts. One has to go through rather a lot, perhaps, in order to find the essentials that one requires. These it may be necessary to read slowly and with the greatest care, but the rest is scarcely looked at. I take it that the ideal is to be able to do all three well, and to adapt one's method of reading to the kind of material with which one is faced.

Rather reluctantly one must admit that most of our scientific reading is of the last mentioned kind. We are interested only in the material, and the more quickly we can get the guts out of a paper and go on to the next the more reported work are we able to absorb in the available time. The industrious bench worker's slogan might be "get it done, get it out, and get on with the next." I can see the

* Read to a meeting of the Southern region of the Association of Veterinary Teachers and Research Workers, on November 4th, 1960, at the Royal Veterinary College, London.

slogan on the walls of his laboratory, reduced to the word "get." For this purpose language becomes a sort of formula and the functional language of a research report is cold, clear and devoid of decoration. It tends to become colder and more drab; I am not so sure that it is clearer. The road, however, seems to be leading on towards a future where we shall be required to fill in a printed form. It is an uninviting prospect.

This requirement for brevity with clarity needs to be met, but in studying how to reduce the size of a report for the clearer presentation of his own particular conclusions an author should, in our age at least, pay some regard to the breadth of scientific interest in general, as some of the data that he has collected may have a value of which he is unaware.

What has just been said applies only to the simple recording of a series of scientific observations. An author's task is more difficult in discussing subjects that involve the correlation of ideas. A cynical colleague of mine once remarked that if one scientific worker copies from another's publication it is regarded as plagiarism, if he copies from a dozen, or a score, however, it is regarded as research. He was either joking, or he wished to limit our work solely to the performance of the controlled experiment, and disregard the need for thought on the significance of the results obtained.

For this kind of paper the author must use his art to entice the reader along a devious line of thought, in order to change an opinion already held or lead him to recognise a new idea. This is the kind of paper that may possibly be read in Desmond Macarthy's first way, carefully through from beginning to end, and perhaps with pleasure, providing the author had been sufficiently cunning in the use of humour, or of some other form of sugary coating to the pill, to please the reader's palate until the medicine has been swallowed.

Some industrious bench worker might wish to say at this point that the genus of man who is engaged in science bears no relationship to the genus engaged in journalism; that the two are widely separated lines of work. Logical thought and clear exposition are, however, basic requirements for both, and a clear distinction cannot be drawn between the two. If a scientist wants to transmit his logical thought he must use the art of the journalist; and if he wants the reader to bear with him to the end he must make it pleasant.

### Catching the Reader's Attention

We are still considering the perfect author's point of view. Even the most expert among writers find it necessary to adopt some of the advertiser's methods. It is depressing for any author to consider the way in which his laboriously written paper will be approached by a reader, who may be imagined entering the library, where there are dozens of periodicals, many of which it is part of his duty to examine. He picks up one of those that seems to concern him and goes through the following sequence of observations and reactions: (1) he reads the title of the paper, and sees, perhaps, that it concerns his own particular branch of the work, (2) he reads the author's name, (3) he then looks at the conclusions, and, not improbably that is all he does before he turns to the next paper. If, however, he has seen something there that may seem worthwhile he proceeds to (4), he turns to the summary, in order to know just a little bit more about the nature of the work. Then, if his interest has been aroused, he goes on to step (5) he turns to the discussion to find out what the author thought about the significance of the results that he had obtained. After this he may carry out the next operation in the series, (6) he may turn to the introduction, to learn why the work was done at all, and where the author's material came from; and only after having gone quickly through all those processes may he proceed to (7) and read the paper through from beginning to end. An author who persuades his readers to do all this may congratulate himself on his success.

Having one's interest aroused is a passive process and for this first appeal the wording of a title is of great importance. The editor knows this very well for which reason he presents it large and often in some special kind of type, in order to try to "sell" the paper. It is at this point that the reader's interest slips over from appeal to the eye to appeal to the mind, and if the words of the title are interesting he may read further. The summary is of equal importance and the proficient author also gives very careful consideration to this selling point. What can he put into it to catch the interest of the reader at the first glance? This part of a scientific report is becoming increasingly important. For every reader of the paper itself there must be a score, or perhaps a hundred who read the summary, which should therefore be most carefully constructed, every sentence being filled with significance. It should be informative and not descriptive. A summary from which one may learn only that the paper describes something and discusses something else (which was already apparent in the title) is of little value. Its language should be simple, so that the more general reader may learn what, if anything, has been added to knowledge. The specialists, who wish to know more of the scientific data and of details of technique, may turn to the body of the paper.

Our perfect author also gives careful consideration to the introduction, in order to relate his work to scientific progress in its appropriate field. Here again the language is simple and non-technical, to suit the passing interest of a reader who may not belong to his own highly specialised group and who may wish to know why the work was taken up, and what benefit might have been expected from a successful conclusion. The introduction is an advantageous place for "selling" a paper, and a mention of interesting associations here may entice the reader to look further into what the author has to say.

### The Value of the Fresh Eye

"The Editor," in our symposium, refers only to the master editor; there ought, however, to be several editors before a paper goes into print. A colleague who will accept the task and will honestly go to

the considerable trouble of using his critical faculty for the benefit of the author carries out a very useful function indeed. There should be clubs or working parties in every institute for this purpose. It is only by coming to a paper fresh from outside that a clear vision can be obtained, and the ruts and grooves so indelibly worn into the mind of the author be avoided. The "fresh eye" enables things to be seen in the proper proportion, so that attention may spread evenly over the whole, instead of sliding here and there at the same awkward places, because of an unrecognised feeling of knowing all about it beforehand. Anyone who has tried the art of drawing will know the help derived from looking at the reflection of his work in a mirror, where it is possible to see things in unusual positions and at once to observe faults in the outline of objects that somehow had become acceptable, though quite wrongly so.

There are two difficulties about this reading by one's colleagues: some authors find themselves unable to accept criticism, and some readers are so afraid of giving offence that it is not possible for them to say what they really think. Communication in writing may therefore be recommended as the smoothest approach, the reader noting all of the improvements that occur to him during the course of his critical reading, and writing them very lightly in pencil into the typescript, with accompanying notes on a separate sheet. The paper may then be returned to the author with some such comment as the following: "I have made a note of all the seeming improvements that occurred to me during the reading of your paper, they are merely for your consideration, to be accepted, or rejected as you may think best. It is your paper, not mine." By some such subterfuge it is possible to avoid the tendency to set up opposition to the adoption of a new view point.

### Relations with the Perfect Editor

To describe the impact of disagreement between the perfect author and the perfect editor as an example of the irresistible force meeting the immovable object would be entirely wrong, it being one of the qualities of perfection that it appreciates the other point of view. When the perfect editor makes useful suggestions therefore, with regard to alterations or rearrangements, the perfect author is able to look on them in a completely detached way that merely decides the question "is it an improvement, or is it not?" On account of his great experience, and his advantage over the author in looking at a finished article with a fresh eye, the editor is often able to make valuable suggestions, to which the author looks forward with great interest, and without any thought of defending himself against criticism.

### The Imperfect Editor

So much for perfection, and things as they ought to be. Perhaps it has all so far been a bit pious and it would be a relief to disregard all inhibitions and state baldly what I have overheard from certain authors. But perhaps it is much safer for anyone, who is speaking for authors in the presence of editors, to confine himself to one imperfection only, and in order to avoid that chilling breath of criticism, to consider it as one that occurs only in other places and among other disciplines—the kind of thing that we are so pleased to be able to avoid, namely the heinous matter of being over-zealous. This is seen in its worst form among junior editors and scrutineers, who appear at times to make little allowance for the author's ideas, and to criticise in a quite unguarded way, from the point of view of personal preference alone.

Being over-zealous is not unknown among good editors. When it does occur in a member of this august body, however, it can be regarded as a fault of perfection, and the natural outcome of the great experience that causes him to wish to cast all papers in his own mould, the one with which he is so familiar, and which he knows to be good. It must be a difficult thing for a very experienced editor to make just the right allowance for individuality in an author's work and to measure by an absolute standard rather than by personal preference. As seen from the author's point of view, experienced editors may be graded from too much interference at the one end of the scale to too little at the other, where we find the editor who does not exercise his powers adequately nor offer the benefit of his experience, and allows unfinished papers to go forward to publication, where they are criticised by the readers and ultimately regretted by the author.

### The Imperfect Author

I do not wish to poach on the editor's ground in this symposium, but only to say that if a chapter could be written on the imperfections of the editor, then a whole book could be written on those of the author. One could begin with "the total inability, or refusal to ackowledge any need whatever for making the article in any way comprehensible to anybody at all." This, of course, does not refer to published work, but to some of the papers that come to the hands of Heads of Departments as ready for publication. It may seem to be too strong a statement, but I doubt if it is so. The basic point of communication from where we all grow up, is the one at which (when very young, and trying desperately to make ourselves understood) we expect other people to surmise what it is we wish to impart. Later on we still expect to be met more than half-way, and the development from there to a point of the independent transmission of a message by written words is no small step. The imperfect author at his most immature stage is so full of his subject, so suffused with the intensity of a desire to impart a message to the world that he cannot wait to take breath before the great event. He refuses to see the difficulties in getting his story across to a wider audience than the one within his own laboratory, and, as we say, he rushes into print.

### Conclusion

I must leave it to the editor to speak from his vast and varied experience of the faults of authors. I only wished to show that I was not unaware of their existence, thereby extracting the element of surprise

from his attack. There is also a final apology to make in that on more than one occasion during this brief discourse I may seem to have overstepped the bounds of propriety for the language of research, I have referred to "creation" and to "art," which may have seemed out of context. But, our *Committee* asked me to speak as an "author," and surely that was an even worse mistake! Who among us here, I wonder, would refer to himself as an "author"; and although "new observations" are by no means unknown, how many of us ever proclaimed a "discovery"? We don't "compose" research papers, we "prepare" research reports, or "notes" for publication, and in general are very commendably modest over all that we do. So, perhaps I am only continuing to play the rôle that was given to me when I refer to the writing of a paper as an "art," and the printed record as a "creation." Nevertheless it is a true comparison, and the reward that goes to the artist is also the scientist's reward; it is the ancient one, the satisfaction of looking on his own work and seeing that it is good.

## II.—The Editor's Point of View

**CHARLES MITCHELL**

**Editor to the British Veterinary Association**

WHEN there are other editors having qualifications far superior to my own in scientific journalism, at least two of them being in this audience, I am rather at a loss to understand why the secretary of this distinguished body invited me to address you. I can only suppose that his design was the sinister one of confronting those who write papers with one who sends them back; and should this be so I can but re-echo the sentiments expressed by Mrs. Todgers in another connexion: "The responsibilities of that situation, my dear Miss Pecksniffs, is such as to keep the nerves continually upon the stretch . . . and make sad havoc of the features."

To be serious, I would suggest to you that the editor has three responsibilities: to his principals, to his authors, and to his readers. I mention the duty to principals first, because that consists, as I see it, of producing a journal which is economically sound. Without that all else fails. In these days the costs of printing, blockmaking, paper, and so on are such that the economic aspect of things has become of the first importance, and a journal must thrive in order to live. Many excellent journals in a variety of fields have closed since the war, and in our specialised field of scientific publication it is of no use to delude ourselves that we can be sheltered completely from the chill winds of economic reality.

Assuming, however, that a journal is viable, what of the editor's relationship with his authors? Clearly his duty to them is to present their work to the best advantage, helping them where necessary to exhibit their findings in the most logical, lucid, and interesting way, and on a lower scale providing them with reasonable paper, type, and illustration. The editor must never forget that when he receives a manuscript he becomes the custodian of another person's property upon which has been lavished weeks, perhaps months, of labour. He is, indeed, more than a custodian, for he can spoil that which has been entrusted to him if he is not up to his job.

Thirdly, the editor has a duty to his readers: to provide them with the best possible selection of articles, to maintain the standard of his journal, and to be impervious to pressures of any kind. The fact that with such a journal as THE VETERINARY RECORD its circulation to members of a learned body is automatic, does not free the editor by one iota from the duty of maintaining just as high a standard as though he were competing for readers in the open market.

But if editors have their duties to others there are, in turn, duties owed to an editor. His principals must not only support him, but they should allow him that freedom of action and of judgment which must attach to the proper discharge of his responsibilities. In that, I have much to be grateful for. His authors must be asked to accept editorial requirements in a reasonable spirit, and if they have the disappointment of work being returned, must, at least, give the editor credit for trying to maintain the standards of his journal. Naturally we all think our brain children are of superior merit, but editors should not be harassed or denigrated so long as they try to discharge their function fairly.

### Jargon

I should like to turn aside for a moment and refer to a habit among scientific authors, which is growing more prevalent and needs to be changed. I refer to the growth of jargon. Science is not a mystique to be comprehended by the few, and it is a form of selfishness to indulge in esoteric language. In this connexion I cannot do better than quote from an article which appeared sometime ago in *The Listener*: "Incomprehensibility can grow insidiously. First of all, the scientist does nothing worse than write 'affirm' or 'allege' or 'assert,' or perhaps 'aver,' 'claim,' 'contend,' 'declare,' 'intimate' or 'state' when he means 'say.' Instead of 'much' he writes 'a considerable amount of' or perhaps 'a great deal of,' 'a large quantity of' or even 'a major proportion of' and his prose is ornamented with such phrases as 'circular in outline,' 'complex in character,' 'large in size,' and 'next in order.' The physicist says 'hot,' not when he means hot but when he means radio-active; and soon by imperceptible steps, the stage is reached when one kind of scientist uses a word to mean one thing and another kind of scientist uses the same word to mean something quite different. For example, to a biologist 'plasma' is the liquid in which the blood corpuscles are suspended; but to a physicist 'plasma' is electrified gas. And so the different kinds of scientists grow away from each other just like prehistoric tribes which once shared the same grunts and clicks but which, as the areas they occupy separate, do so no longer."

Authors would do well to take this matter to

heart because, in my view, while the increase in the number and size of journals is limited by economic pressures, the number of papers offered is unlimited. Standards must rise as pressure upon available space becomes intensified, and editors will become more difficult to please.

### The Nice Art of Rejection

I must observe, in this connexion, that members of your profession tend on the whole to a total want of resignation if their work is returned to them. Only on one occasion did a veterinary scientist write and thank me for rejecting his paper which he said was "thoroughly bad." At the other end of the scale I was able to satisfy another worker only by explaining, with that peculiar suavity which comes naturally to editors, that his paper was too good for our pages. If I take some little unction to myself over the discretion with which blows are softened, my self satisfaction is perhaps justified by a singular fact: the scientists with whom I am associated in the production of *Research in Veterinary Science* give to themselves the satisfaction of accepting authors' work; they entrust to me the delicate task of returning it!

Nevertheless, the fact remains that an editor depends entirely upon the work which is offered to him, and that in turn depends in large measure upon what I can best describe as the atmosphere created around a journal. It is the creation of such an atmosphere which makes the difference between the great editors like John Walter of *The Times*, C. P. Scott, and Sir Squire Sprigge—and the rest of us. Ideally the editor should see in every manuscript offered to him an adventure of the mind; he must always be alert for the new approach to old problems; be prepared to greet heterodoxy with sympathetic interest, and even, if necessary, fight for it. I would like to think that if a scientist in your profession made an important discovery which ran counter to accepted scientific views he would not have to hawk it all round the press, as workers in the past have done. Unhappily, genius does not always present itself in the most attractive form; it can be awkward, headstrong, disputacious, and even incoherent; and I would suggest to you that the great scientist has something in common with the artist in his capacity for those sustained acts of creative imagination which link up what is observed with what may be deduced and concluded. It is here that the editor who is worth his salt must reach out to such scientists and translate, if need be, the creative violence of genius into the accepted currency of the literature.

### Practical Considerations

All these observations refer to matters of general principle; but for a moment or two I should like to dwell upon the practical day-to-day details of publication, though my friend Per Saugman will go into that much more fully when he gives his paper to you. The editor must have a sound general knowledge of printing techniques so that he may express his wishes about the visual appearance of his journal in terms comprehensible to the printer. He must be allowed to have his own way in what is called house style—that is consistency of presentation in headings, illustrations, contractions, spelling, and so on. It is unhelpful when an author writes to say "my paper must be presented in such and such a style because I prefer it to yours": a journal would be a pretty sort of hotch-potch if one weakly acceded to requests of that kind.

Incidentally, it helps if the editor has at least a working knowledge of the English language, including not only its syntax but also its spelling; cases are not unknown when editorial corrections, however well intended, have put what was right, wrong.

As I approach the end of these few random observations I am left in a daze to think of the talent and the natural aptitude which editors must surely command! I am reminded of a passage in *The Times* which described the number of persons attendant upon the birth of an infant prince—to which the regular birth of one's journal may be likened. Such persons included the governess, wet nurse, dry nurse, rocker, sempstress, page, and necessary woman. Except for the difference in sex over the last of these officials—and even that might be corrected through the wonders of endocrinology—I cannot think of a single one of these functions which the editor is not called upon regularly to discharge.

Never mind! If he can preserve fresh interest in every manuscript sent to him, if he can achieve good judgment, liberality of mind, approachability, and impartiality, retain the saving grace of humour, and perhaps most important of all, keep a gleam of poetry in his soul, he may get somewhere within nodding distance of discharging properly the heavy, but always exciting, responsibilities that fall to his lot.

## III.—The Publisher's Point of View

**PER SAUGMAN**

**Blackwell Scientific Publications, Oxford.**

THE advance in our general knowledge of science has, I think you will agree, moved with a speed and brought discoveries which even the boldest of the previous generation would have hesitated to predict. Old fields of science have been widened, new opened up, and some few have almost disappeared. If we want to study the evolution of a particular field then we have no better records than the corresponding journals. Journal publishing has certainly been affected in no mean way by the advances in science and it will, I am sure, amaze you and horrify the librarians when I tell you that a few hundred new scientific journals were launched last year alone. There is, I am afraid, no sign of this number decreasing. Whilst then the quantity in journal publishing has expanded in a remarkable way the same cannot be said of the quality, which has moved at a much slower speed; but this is because the basic methods of production have changed very little. We do, by and large, produce our books and journals in much the same way as was used fifty

to a hundred years ago. There has been a good deal of modernisation in the industry but journals have only been affected to a lesser degree because they are still mainly being produced by manual labour.

One aspect has remained much the same, and that is the relationship between author, editor and publisher. Whatever else may be possible this most important matter does not lend itself to mechanisation, it sometimes leads, however, to a greater mutual understanding and you will see, therefore, how much I welcome this symposium and the opportunity of speaking to you.

I will try to give you some practical advice with regard to the preparation of papers for press. You will at times feel that I am a bit elementary, but I will not mention any point unless experience has taught me that it is worth while.

### Preparation of Manuscript

Your first guiding point should be clarity both in text and in the preparation of your material. You must bear in mind that although we publishers know something of science we can never afford to take chances, so you should really treat us as almost illiterate. You must also remember that your paper has to be set in type by people who earn their living by fast work and who have no time to decipher an author's writing or to read his mind.

Your papers should, therefore, be typewritten and on white paper. Now this may seem superfluous, but we have received manuscripts (mainly from abroad) on coloured paper, and it is very hard to read. This you will appreciate when I tell you that a printer's compositor places your manuscript on his keyboard, at a distance of about forty inches. That is why you should also double space your text so that the compositor's eye does not falter. In the same way the wide margin which all editors and publishers welcome has three purposes: to enable the editor to include notes, to provide space for us to make comments for the printer, and to give the printer a shorter and easier line to read. You should type on one side of the paper only. This is, of course, standard practice and it eliminates what *might* otherwise happen—that only half your text has been set. You should always keep a carbon copy of your text, for although we have never lost a paper or manuscript this has been known to happen.

You are, no doubt, aware that every journal sets out its own rules for abbreviations and signs. I cannot lay down any law about this, I can only advise you, in cases of doubt, to consult your editor well in advance and thereby be spared the task of going through your whole manuscript to make the appropriate corrections.

### Tables and Illustrations

The tables and the illustrations are often likely to cause some difficulty. You should as a rule always type your tables on separate sheets of paper for the simple reason that they are not set by the keyboard operator who sets your text but frequently by another person in another room and nearly always by hand. This is just one point where you can help greatly to save time and cost. It is common practice to give tables Roman numbers in text and on the tables themselves, but this is only too often forgotten; if you remember you will certainly spare your editor much work.

Many authors prefer to include as many horizontal and vertical lines in their tables as they think fit. Horizontal rules, as we call them, can be set on the keyboard, but the vertical rules have to be set by hand. Vertical rules can, quite often, be eliminated, so try to consider this when you plan yours. A glance at previous issues of the journal you have in mind would soon give you an idea of style.

Illustrations, briefly speaking, fall into two groups, namely line drawings and graphs, as against half tone—that is, photographs and colour illustrations. I would like you to know that the difference in cost between line blocks and half tone blocks is approximately seventy per cent. Printing of the latter demands the greatest of care, because the printer has to watch that the right amount of ink is applied to a half tone illustration; this is a point which does not arise when one prints line illustrations. A further problem concerning half tone illustrations is that these have to be printed on art paper which is very much more expensive than ordinary text paper. There is, by and large, a great preference amongst scientists to make use of photographs rather than line drawings, but I think the advantages of a line drawing are often underestimated. You should not forget that a line drawing offers you the opportunity to stress a certain point with much greater emphasis, and often with much greater clarity, than does a photograph. You should prepare line drawings with black indian ink and on Bristol board. The indian ink offers the greatest possible contrast, and the Bristol board has a smooth surface so that any mistake made in the preparation of the drawing can easily be erased with a penknife or be covered with a whitewash.

Photographs for reproduction should be clear, sharp, glossy prints, with good contrast to give the best possible half tone block. You might outline important details with a soft pencil on the back of the prints so that the engraver can emphasise these when he etches the plates. You should take care to place any photographs you wish to mark on a hard table, or better still on a plate of glass, to avoid surface markings. It is no good to send bad photographs and expect good results.

Colour blocks as such are no problem, but they are very expensive. You need four blocks to print a four-colour photograph. I need not tell you what costs are involved, for you can appreciate that the printer requires the greatest possible accuracy when he registers his printing formes. It is quite useless to print in several colours if you cannot make certain to print within your given frame with every run you make. We always have to use the best possible art paper, for one moistens the paper in printing, and only the best paper will not give way to this damp.

It is very important that all illustrations should be marked with the title of your paper and your name, quite apart from a number. There are often cases of doubt as to the top of an illustration, but

you can overcome this problem by marking the back with an arrow. You should also make the appropriate notes whenever the question of magnification is present. These, I am afraid, are points which are all too often forgotten, and when they are they waste a good deal of time for your editor and for your publisher. You would be well advised to submit your legends to the illustrations on a separate piece of paper because the illustrations, as soon as they have been accepted, are sent to the blockmaker whereas your legends obviously go to the printers with appropriate instructions for size and type.

There are two very important points left in connexion with the question of illustration. The one is the lettering, the other the reductions. I would advise you to mark all lettering lightly in pencil at the appropriate place where it has to be written. Do take care to distinguish clearly between capital letters and ordinary letters. If your editor insists that your lettering must be done by your own artist then you should consult him first to get some guidance as to style. The common style to-day used by most journals is that supplied with the so-called UNO stencil which is cut out in a style called Gill Sans. Only a few journals want lettering to be type set, as this is very much more expensive. It is obviously not satisfactory to mark photographs in pencil, and quite impossible to do so on the front; you should in such cases attach a transparent piece of paper to the photograph and fold this over the illustration, marking your lettering on it. The publisher's artist can then draw the lettering in white or black on the photograph and give you a very satisfactory reproduction.

Most drawings are made with a view to reduction, and the amount of reduction they will stand is determined by a number of considerations of which the author is best aware. It is most helpful to the editor and to the publisher if the author will prepare his line illustrations so that a uniform reduction can be made—in most cases to half or a third of the size which has been submitted; the same rule applies to photographic prints. I have until now not mentioned the question of graphs, but these should be prepared on graph paper which should be ruled in light blue; the yellow paper is of no use as it is impossible for us to reproduce these vague lines on the actual block.

### References

It would be true to say that the question of references differs almost from journal to journal, but modern practice favours the Harvard system. The name of the author and the date of publication are given in the text, and a list of the authors which have been quoted is published at the end of each paper in alphabetical order. Each reference in the list should give in order the author's name, initials, year of publication (which should be in brackets), the name of the journal, the volume number of the journal, and the number of the first page of the paper. If the author whom you have quoted has written more than one paper in the year then you should distinguish each year by letters A, B, and C, and so on. In the case of books you should give the title of the book, the place of publication, and the publisher's name. Names of any collaborating authors should be given in full on the first occasion when you quote them, but later on in the text it would be sufficient for you to add *et al.* after the first name. You will be familiar with the *World List of Scientific Periodicals*, and I would advise you to consult this book when you wish to get the correct abbreviation for the journal you may have quoted. An alternative method for quoting references is simply by inserting a so-called superior figure in your text and to list the references in numerical order at the end of your paper.

### Copyright

It is most important that you should always seek permission to quote any material which has previously been published either in journals or in books. It is customary to write to the person who holds the copyright, which in most cases means the publisher, but I would advise you to make an extra copy of any letter seeking permission and send this to the publisher or author as the case may be. I think I can say that these permissions are always granted, and it is only a matter of formality; but it is very necessary that you should remember this as you may otherwise land yourselves in no end of difficulties. It is clearly understood that by writing a book or a paper the author declares his willingness to make his work or discoveries accessible to a larger audience, but you will often find that this information is guarded with some jealousy, and authors rightly wish to receive credit in the form of a reference for their work.

### Revision and Corrections

The final thing I would advise you to do before you post your paper to the editor of the journal you have in mind would be to read it thoroughly. Make quite sure you have given your paper a concise and proper title, that it bears your name, your affiliations and your degrees. You might also care to insert a date when it was completed. Mark your headings for the various paragraphs according to the importance which you wish to give them, this can be done by marking them up in the margin with letters A, B and C. It may be that your editor does not wish to follow your suggestions but it does give him an impression of the way in which you view your own material. Make sure that all your references are correct and that you have not included any references in your list which have not been quoted in the text. Make up a list of the illustrations which accompany your manuscript and include the tables in this list. Make sure that all your illustrations bear your name and the title of the paper, and the same thing goes for the tables. Now do yourself a favour by reading the whole paper through for your own literary style, try to delete any sentences which have to be read twice before they can be understood; in scientific writing be simple, accurate and interesting.

We will assume that you have listened carefully to what I have said and that your manuscript is now nearly perfect.

(*Concluded at the foot of page overleaf*)

# The British Poultry Industry To-day

**From a Correspondent**

The farmyard Cinderella has been transformed into a princess—the little hen has actually developed into number two money producer in British agriculture.

There are some startling facts concerning the British poultry industry, for it is the section that has progressed most in the whole agricultural field. Broilers for example have risen during the past five years or so from nil to their present status without any aid from the tax-payer.

How has this change been achieved in such a short time? Largely because this industry consists of progressive people who are willing to learn from the experience of other industries and from other countries. The old idea that "because it is British it is best" is not always applicable and many people now realise that we can learn from beyond our own shores.

The chief contribution to the poultry revolution has, undoubtedly, come from the breeders. An economically sound livestock industry must be based on animals which have been developed by the application of scientific principles and by selection for such economic traits as egg numbers, egg size, feed conversion rate, etc.: the poultry breeder has set the pace in this field for other livestock breeders. The maintenance of physical breed characteristics has now "gone by the board." Breeding programmes are being designed by the statistician with the aid of his electronic computer; the importance of inherited blood group systems has been realised, and this very specialised biological avenue is being fully utilised.

The inherited characteristics of an animal can, however, be marred by disease, faulty nutrition or bad housing and so, in order to fulfil the animal's genetic potential, management and hygiene are still vitally important. There are many critics of the intensive systems of producing eggs and poultry meat but do these people realise how much scientific data is compiled before these systems are adopted? Poultry houses are being constructed with a greater attention to the principles of insulation and ventilation than are most dwelling houses. It is possible to keep chickens alive and healthy on almost any type of diet, but this is seldom economical and consequently the nutritionists have formulated rations containing the optimum amounts of ingredients and not necessarily the minimum amounts.

With these high pressure methods of production the risk of spread of infectious disease is great. There is a widespread need for rapid, correct diagnosis of disease outbreaks when they occur and a still greater need for disease prevention programmes incorporating sound, hygienic principles and the intelligent use of prophylactic drugs and vaccines. In this country we have a body of men scientifically trained and competent to carry out this work but who, for reasons best known to themselves, are sometimes loath to do so.

## AID FOR RESEARCH ON SCRAPIE

Two grants of £53,000 each have been approved by the United States Department of Agriculture for continuing research at two centres in Britain into scrapie.

The money, part of sterling funds accumulated in Britain through food purchases, will be spent in five-year projects by the Agricultural Research Council at Compton, Berkshire, and by the Animal Diseases Research Association at Moredun, near Edinburgh.

**The Presentation of Scientific Papers.**—*Concluded.*

It will go to the printers and they will in due course send you galley proofs. You can make minor corrections in these but do not regard proofs as the green light to rewrite your contribution. Corrections cost a lot of money. Make your corrections quite clear and neat as you may otherwise hold up the publication. I will not try to explain the signs used in proof correcting, but I can assure you that any publisher will let you have a list free of charge. We ourselves produce a booklet for some of our journals and you are welcome to have a copy.

We are nearly at the end, but let me say a word or two about reprints and the sale of journals.

Reprints are always a bone of contention, and I know you think they are expensive. They really are very cheap when you think what is involved in producing them. You must remember to order your supply when you return galley proofs so that they can be produced quickly and economically. I think it is standard practice to supply fifty free of charge, which I know you think a miserably small reward for all your work, and this very fittingly brings me to the financing and selling of journals.

Journals are in most cases owned and administered by societies and associations, a smaller number are the property of the publisher. They are more expensive to produce than books because you deal with a greater number of people, which means more postage, carriage and so on. You have got to get at least a thousand subscribers before you are within sight of profit. Now this may not sound very many but it is to-day because you will find that many libraries share one journal. But the market is, of course, expanding, particularly of late with so many countries achieving independence.

We sell our journals in no less than 86 different countries and are constantly arranging exhibitions, mailings, advertisements and so on. But it is true of all journals that they only sell if they are good and maintain a high standard. I personally feel that authors rely too much on the editor to put a paper into shape; this, to say the least, is not fair and you will understand how glad I am to have spoken to those who have decided to become the exception to the rule!

# B.V.A. Poultry Refresher Courses

In association with the Ministry of Agriculture a series of poultry refresher courses has been arranged respectively at Wolverhampton, Weybridge, Stoke Mandeville and Reading, and Lasswade, Scotland. The programmes are as follows, and the attention of those interested in the courses is especially drawn to the notes printed below the programmes.

**Veterinary Investigation Laboratory, Woodthorne, Wolverhampton**

May 1st to 5th, 1961

May 1st

9.00 to 9.15 Welcome and Introduction to Course (G. F. Kershaw).
9.15 to 10.00 The Poultry Industry to-day—Dr. Coles.
10.00 to 10.15 Coffee.
10.15 to 11.00, 11.00 to 12.00, 12.00 to 1.00 Modern Breeding and Progeny Testing—Mr. Morgan, Wheaton Aston.

Luncheon

2.00 to 5.30 Visit to Turkey Farm—Mr. Ward, Beighterton, Weston. Visit to Broiler Unit—Mayfield Poultry Co.
5.30 to 6.00 Film on the Turkey.

May 2nd

8.30 to 9.30 Farm Visits. Leave for Pershore.
9.45 to 1.00 J. Bomford—Laying batteries, Intensive Breeding (25,000 birds) Broilers, Processing Birds.

Luncheon at Pershore

2.00 to 5.00 Sterling Hatchery, Fernhill Heath, Worcs (10,000 birds) J. Beckett, Laying Unit (12,000 birds).
5.00 to 6.00 Return to Wolverhampton.

May 3rd

9.15 to 11.00 Diseases of Baby Chicks—E. A. Gibson.
11.20 to 11.45 P.M. Techniques—T. F. Vallely.
11.45 to 12.45 P.M. Practicals—T. F. Vallely and S. A. Hall.

Luncheon

2.00 to 3.30 Diseases of Growers—C. N. Saunders.
3.30 to 3.45 Tea.
3.45 to 5.00 Nutrition in relation to disease—Dr. Temperton.
5.00 to 6.00 Discussion, with E. A. Gibson in attendance.

May 4th

9.15 to 11.00 Respiratory diseases—Dr. Jordan.
11.00 to 11.15 Coffee.
11.15 to 12.00 P.M. Practicals—T. F. Vallely and S. A. Hall.
12.00 to 1.00 Turkeys and Ducks—E. A. Gibson.

Luncheon

2.00 to 3.30 Diseases of adult birds—J. D. Blaxland.
3.30 to 3.45 Tea.
3.45 to 5.00 Lecture by Mr. Lintin, R.P.A.O.
5.00 to 6.00 Discussion with the above speakers in attendance.

May 5th

9.30 to 11.00 Fowl Pest—A. Kelly.
11.00 to 11.15 Coffee.
11.15 to 12.15 Coccidiosis and Parasites—Dr. Joyner or S. F. M. Davies.
12.15 to 1.00 P.M. Practicals—T. F. Vallely and S. A. Hall.

Luncheon

2.00 to 3.00 Psittacosis and Cage Birds—I. F. Keymer.
3.00 to 4.00 P.M. Practical—Laboratory Techniques
4.00 to 5.00 Concluding Discussions.
Films—Pullorum disease and Fowl Typhoid.

**Weybridge, Stoke Mandeville, Reading, etc.**

Monday, May 8th
**(at Stoke Mandeville, near Aylesbury)**

9.30 Introduction to the Course—S. Jennings, Esq., President B.V.A. The Poultry Industry to-day—Dr. Blount. Lectures and demonstrations on commercial egg production—Dr. Blount. Broiler production—Dr. Blount. Basic principles of nutrition—Dr. Blount.

1.00 Luncheon.

2.00, 6.00 B.O.C.M. Experimental Farm, Stoke Mandeville.

Tuesday, May 9th
**(at Reading and Bookham)**

9.30 Hatchery procedure—W. E. Beattie. Incubation and Hatchery Hygiene at Thornbers Hatchery, Reading—W. E. Beattie.

1.00 Luncheon.

2.00 Modern Breeding Programmes and Progeny Testing at M.A.F.F., Progeny Testing Station, Bookham—C. T. Riley.

Wednesday, May 10th
**(at Weybridge)**

9.15 Welcome at Central Laboratory, Weybridge by the Director.
9.30, 11.00 Diseases of Baby Chicks—J. D. Blaxland.
11.20 Coccidiosis, Blackhead and other Parasitic Diseases—Dr. Joyner and S. F. M. Davies.

1.00 Luncheon.

2.00 Techniques of P.M. examination—J. D. Blaxland.
3.20 P.M. Practical—J. D. Blaxland and B. S. Hanson.
4.30 } Psittacosis and Cage Birds—I. F. Keymer.
5.15 }
5.30 Film on Typhoid.
6.00 Film on Pullorum disease.

Thursday, May 11th
**(at Weybridge)**

9.30 Diseases of growing chickens, etc.—J. D. Blaxland.
11.20 Respiratory diseases—Dr. Chu.

1.00 Luncheon.

2.00 Diseases of ducks } —F. D. Asplin.
2.20 Diseases of turkeys }

3.00 Tea.

3.20 P.M. Practical—J. D. Blaxland and B. S. Hanson.
5.30 Film on the Turkey.

Friday, May 12th
**(at Weybridge)**

9.30 Diseases of Adult Birds, etc.—J. D. Blaxland.
11.20 Newcastle disease—epidemiology and control—R. A. Richards.

1.00 Luncheon.

2.00 Discussion.
3.00 Tea.
3.20 } P.M. Practical—J. D. Blaxland and B. S.
5.00 } Hanson.

**Veterinary Laboratory, Lasswade, Midlothian, Scotland**

May 15th to 19th

Monday

9.30 Introduction.
9.45 to 10.30 The Poultry Industry—F. H. Jones.

10.30 to 10.45 Tea break.

10.45 to 12.30 Poultry Husbandry (including Housing, Incubation, Rearing, Production)—Dr. I. S. Robertson.

12.30 to 1.30 Luncheon.

Afternoon Visit to Chunky Chicks Headquarters and Hatchery at Newbridge and to Broiler and Processing Plants of D. B. Marshall (Newbridge) Ltd.

Tuesday

9.30 to 10.30 Poultry Breeding—Dr. G. Clayton.
10.30 to 10.45 Tea break.
10.45 Poultry Nutrition and Nutritional Diseases—P. J. Barden.
Discussion.

12.30 Luncheon.

2.15 Visit to D. C. Watson & Son, Fenton Barns, Drem. Turkey Production (A.I., Incubation, Rearing and Processing).

Wednesday

9.30 to 10.30 Diseases of Chicks—Dr. J. E. Wilson.

10.30 to 10.45 Tea break.

10.45 Diseases of Growing Chickens and Broilers—R. H. Duff.
Discussion.

12.30 to 1.30 Luncheon.

1.30 *Post-mortem* techniques—R. H. Duff. Demonstration, practical P.M. examinations, discussion.

Thursday and Friday

9.30 Diseases of Adult Poultry, Ducks and Turkeys—Dr. J. E. Wilson and R. H. Duff and J. Macdonald.

10.30 to 10.45 Tea break.

10.45 to 12.30 Diseases of adults—transparencies—discussion.

12.30 to 1.30 Luncheon.

Afternoon *Post-mortem* examinations.
Demonstrations.
Transparencies.
Discussion.

**Important Notes**

With regard to the above courses, the following points should be noted:—

(i) a maximum of 15 members only can be accommodated on each course.
(ii) applications for attendance must be received at B.V.A. Headquarters not later than Monday, April 10th.
(iii) members attending are requested to arrange their own hotel accommodation.
(iv) there will be no charge for the courses themselves, but those attending will be asked to pay for their own hotel accommodation and transport.
(v) those attending must be prepared to:—
  (a) attend the whole course, and
  (b) bring protective clothing (coat and boots), white coat and simple P.M. equipment, such as forceps, scissors and knives.
(vi) the courses will not be held unless sufficient applications are received to justify the effort and cost of running them.

# Current Literature

## ABSTRACTS

**Diagnosis of Johne's Disease in Cattle.** RINGDAL, G. (1960). *Nord. VetMed.* **12.** 513.

This paper presents, in considerable detail, the relationship between results obtained with the complement fixation test, microscopical and cultural examination of faeces, and by rectal mucosa and *post-mortem* examination.

Four hundred and eighty-five blood samples, 326 scrapings of rectal mucosa, and 397 faeces samples, were submitted for examination from a total of 598 animals, most of which were suspected to have Johne's disease. 48·5 per cent. gave a positive complement fixation reaction while demonstration of acid-fast organisms was made in 35·6 per cent. of rectal mucosal scrapings, and 25·7 per cent. of faeces samples. Where more than 1 sample was taken from each animal, complement fixation gave 60 per cent. more positives than microscopical examination of rectal mucosa and more than twice as many positives as with microscopic examination of faeces. Of 127 animals in which acid-fast organisms had been demonstrated and from which blood samples had also been taken, 125 (98·4 per cent.) were complement fixation positive. The 2 complement fixation negative reactors were extremely emaciated and were slaughtered before they could be re-examined.

Of 537 faeces cultures, 137 were too contaminated to read. From 54 (13·5 per cent.) of the remaining 400 *Mycobacterium paratuberculosis* (or *johnei*) was isolated. Of 48 animals with positive faeces cultures, 43 (89·6 per cent.) gave positive complement fixation reactions.

Cultures from the rectal mucosa were made in 44 cases. Of 16 animals with positive rectal mucosa cultures, 16 (100 per cent.) gave positive complement fixation reactions.

It is clear from these results that complement fixation will detect the great majority of cases of Johne's disease which would be detected by microscopical and cultural examination of faeces and rectal mucosal scrapings. The question arises—will the test give positive reactions in the absence of the disease ? Results of pathological and bacteriological examination of small intestines and mesenteric lymph nodes of 27 cows which had been blood tested are presented. In 17 (63·0 per cent.) of the 27 cows complement fixation antibodies were demonstrated and 15 (88·2 per cent.) of these 17 were shown to be infected. In the 2 cases with positive complement fixation antibodies and no sign of Johne's disease on *post-mortem* examination, the specimens which had been received for examination did not include the posterior part of the small intestine.

In the material as a whole there was a slight, non-significant tendency for animals exhibiting antibodies but not excreting acid-fast organisms to be in the younger age groups.

A suggested method of preventing outbreaks of clinical cases of Johne's disease is to use the complement fixation test as a herd test and remove the positive reactors. If this is not feasible then microscopic examination of faeces from positive complement fixation reactors could be the basis for culling.

The use of the complement fixation test is of limited value for control of Johne's disease in import and export of cattle because foreign trade in livestock is often with young animals in which infection is not associated with circulating antibodies.

**Experimental Use of Anthelmintics in Piggeries.** (Translated title.) FAGERBERG, R., & PERSSON, R. (1960). *Nord. VetMed.* **12.** 499.

Pigs' livers weighing a total of 20,100 kg. were condemned in Kalmar slaughter-house during 1958 and 1959 when about 213,000 pigs were slaughtered. Most of this loss was due to migrating Ascaris larvae. An experiment was carried out under field conditions in 2 well-run piggeries. Approximately 200 young pigs (age not given, presumably just weaned) were divided as evenly as possible as regards sex, weight, etc., into two groups. The experimental group received 12.000,000 units of hygromycin B (an antibiotic from *Streptomyces hygroscopicus*) per ton of foodstuff. This is equal to 5 lb. per ton of " Hygromix." The experimental group had no *Ascaris suum* in the small intestine, in contrast to the controls. The numbers of *Oesophagostomum* and *Trichuris* were much smaller than in the controls. It was observed in the controls that the parasite burden and possibly susceptibility to food poisoning were closely related to the farm from which the piglets originated. This suggests that the parasites were acquired during the suckling stage. In the experimental group the liver damage was significantly less than in the controls. Particularly in the first 6 weeks of the experiment food consumption per bodyweight gain was lower in the experimental group than in the controls.

**A Comparison between Pneumococcal Infection in Calves and Man with Special Reference to the Possibility of a Causal Relation.** RØMER, O. (1960). *Nord. VetMed.* **12.** 73.

From a study of the literature of human and calf pneumococcal infections the author concludes that the human and calf materials offer such points of resemblance with regard to the relative occurrence of several types that a relationship between the infections seems a likely possibility.

When deaths in calves were diagnosed at the State Veterinary Laboratory in Copenhagen as due to pneumococci, faucial swabs were taken, where possible, from the cowshed staff and from children who had access to the calves. In 28 of 42 cases the same type of pneumococcus was recovered from the faucial swabs as had caused the calf deaths. The recovery of pneumococci of different types was rare. In 10 of 40 cases in which it was possible to check on the health of the infected humans there were mild disease symptoms, such as colds. A quarter of the 72 humans infected were children. The author believes that the primary infection of the calves is from a human source. H. B.

# Divisional News

## THE CENTRAL VETERINARY SOCIETY

A Meeting was held at the Royal Veterinary College on December 1st, 1960, by kind permission of the Principal, and the President, Mr. Michael Young, took the Chair at 6 p.m. Eighteen Fellows and 4 visitors were present.

*Minutes*

The minutes of 3 meetings, which had been published, were confirmed.

*Correspondence*

A letter from the General Secretary of the British Veterinary Association was read, concerning the Cheshire Swine Fever Vaccination Scheme. A second letter from the same source requested the Division's views on an R.S.P.C.A. proposal to site a new clinic in North London. Members were also requested to communicate details of their local A.A. boxes to headquarters.

*Membership*

Mr. J. P. Volrath, of Hampton and Mr. F. Slater, of Ilford were elected unanimously. Two nominations were accepted.

*Obituary*

Professor McCunn said a few words concerning the career of the late Major R. Wall, a Fellow of the Central Veterinary Society for half a century. The meeting honoured his memory in the usual way.

*Address by Dr. E. L. Taylor*

Dr. E. L. Taylor, of Weybridge, presented an address entitled "The Presentation of Papers at Scientific Meetings." In his humorous but pointed account of the progress of a paper from its conception to its delivery, Dr. Taylor listed the 24 principal pitfalls awaiting the unwary speaker. Among these were excess of material, insufficient preparation, inaudibility and failure to keep to time. Dr. Taylor also said that "one owes it to one's audience to release a little adrenalin."

The paper was opened by Mr. Charles Mitchell (Editor of THE VETERINARY RECORD) who wittily described the dilemmas of an editor faced with publishing the papers after they have been delivered. An interesting and valuable discussion followed.

## THE SOCIETY OF PRACTISING VETERINARY SURGEONS

The annual general meeting was held in the School of Veterinary Medicine, Cambridge, on Wednesday, May 18th, 1960, at 2.30 p.m. The President, Mr. F. V. John, occupied the Chair, and 32 members and guests were present.

Apologies for absence were received from the following:—

Messrs. G. Wyse; O. Swarbrick; F. A. Crowhurst; H. F. Hebeler; M. J. Hewett; J. B. Johnston; G. K. Buckler; Miss J. Osborn; Messrs. H. M. Wilson; J. Barber-Lomax; J. B. White; W. F. Loveless; W. B. Singleton; J. H. Parsons; and J. E. Johnson.

*Minutes*

The minutes of the annual general meeting held in Manchester on May 21st, 1959, having been circulated were agreed and signed as correct.

*Correspondence*

(a) A letter was read drawing attention to the following resolution which was passed by Council B.V.A. in April:—

> THAT in the assessment of fees, members of the profession should make a proper charge for professional services and that drugs should be supplied at reasonable prices; also, that any exorbitant profit on drugs was not in the interest of either the profession or its clients.

(b) It was suggested that refresher courses in meat inspection for practising veterinary surgeons might be run at various centres throughout the country. Members wishing to take part in such courses were asked to send in their names to the Hon. Secretary of the S.P.V.S. by August 15th, 1960.

*Membership*

*Elections*: Messrs. J. F. Birtwhistle; R. T. Parry; P. G. Grant; R. T. Knowles; A. Hector; H. A. G. Meikle.

*Nominations*: Messrs. D. G. Campbell; A. Whitelaw; A. N. McCormick; J. R. Gregg; R. R. Setterfield; and G. A. Swift.

*Hon. Treasurer's Report and Balance Sheet*

It was proposed by Mr. G. M. G. Oliver and seconded by Mr. R. N. Phillips that the report, which had been circulated, should be adopted. This was carried unanimously.

*Hon. Secretary's Report*

It was proposed by Mr. E. Wilkinson, seconded by Mr. Hodgman, that the report, which had been circulated, should be adopted. It was carried unanimously.

*Election of Officers*

Acting on Council's recommendation the following members were unanimously elected for the year 1960/61:—

*President*: Capt. R. N. Phillips, Ipswich; *Senior Vice-President*: F. V. John, Llandilo; *Vice-President*: Col. G. N. Bushman, London; *Junior Vice-President*: J. B. Johnston, Shrewsbury; *Honorary Treasurer*: D. C. Smith, Yorks; *Honorary Secretary*: A. Steele-Bodger, Lichfield; *Auditor*: J. Whittaker, F.I.A.A., Bradford.

*Election of Council*

The following were unanimously elected to serve on Council for the year 1960/61:—

Messrs. A. V. H. G. Abbott; K. P. Anderson; L. St. Bel-Golledge; G. K. Buckler; A. S. Chapman; T. A. R. Chipperfield; I. M. Duguid; J. B. Edwards; S. F. J. Hodgman; H. F. Hebeler; J. M. Ingram; R. A. James; S. Jennings; J. E. Johnson; J. H. McGhee; G. M. G. Oliver; J. A. Pasfield; J. S. Steward; A. Sutherland; A. Thomson; E. Wilkinson; G. Wyse; D. W. Wood; and J. B. White.

*Election of Representatives on Council B.V.A.*

Messrs. J. B. Edwards, Wellingborough; L. St. Bel-Golledge, Sherborne; J. B. Johnston, Shrewsbury; G. M. G. Oliver, Lanchester; R. N. Phillips, Ipswich; A. Steele-Bodger, Lichfield.

*Presidential Address*

The President, Mr. F. V. John, said:—

"My year of office has been largely taken up with accompanying Mr. Steele-Bodger round the country with the report of the Economics Committee, and I cannot allow this opportunity to pass without reference to Mr. Steele-Bodger's efforts on behalf of the Committee. He is nominally its Secretary, but I know that the members of the Committee will agree with me when I say that he is also 95 per cent. of the Committee. The rest of us are there simply to dot the 'i's' and cross the 't's.' His exposition of the report to the many meetings he has addressed can only be described as masterly. At every meeting he has held the audience spell-bound by his knowledge of the costings of practice. All this has meant a tremendous sacrifice of his own practice time, and the Society will be for ever indebted to him. My only hope is that the practitioners of the country will show their appreciation by electing him to the Royal College.

"From the past my thoughts turn to the future. My first thought is that there are compelling reasons why this Society must strive to get more and more powerful. While to the short-sighted everything in the general practitioner's garden may appear lovely, there is no doubt that the future will subject practices to many difficulties and pressures, and looking further ahead, one wonders what changes are likely to take place in the organisation of practice to meet the ever increasing fund of knowledge.

"I believe that all these questions should be thrashed out by our Society and that our representatives on the B.V.A. Council should be properly briefed to enable them to put over our considered views to the parent body when the opportunity arises."

*Report on Behalf of the Economics Committee by Mr. A. Steele-Bodger*

A vigorours discussion followed the paper during which the following points were raised: profit margins, setting up of plates, single-handed practice, mileage rates, detailed accounts, dispensing fees and veterinary expenses as shown in farm accounts.

Members taking part in the discussion included Messrs. McLintock, Barton, Edwards, Smith, Howie, Hodgman, Bateman, Hay and Phillips.

*Induction of New President*

Mr. F. V. John, the retiring President, introduced Captain R. N. Phillips and paid tribute to the long service he had given to the Society. Captain Phillips was then installed as President for the year 1960/61.

*Any Other Business*

Mr. J. B. Edwards raised the question of items appearing under the heading "veterinary expenses" in farm accounts. After some discussion the President stated that the subject would be placed on the agenda of the next Council Meeting.

## THE WESTERN COUNTIES VETERINARY ASSOCIATION

A meeting of the above Association was held at the Rougemont Hotel, Exeter, Devon, on January 26th, 1961, at 2.30 p.m. The President, Mr. P. G. Steel, occupied the Chair. There were 26 members and 1 visitor present, and 12 apologies for absence were received.

*Minutes*

The minutes of the last meeting were read, passed and signed as a true and correct record.

*Correspondence*

(a) Letter from the B.V.A. re Pet Shops. Members were asked to support the request from Headquarters.

(b) Letters of thanks were read from the Honorary Members thanking the Association for honouring them in this way.

(c) A letter from Mr. Harkness—who was not present—was read on the subject of bulk buying and bulk prescribing. The Secretary was instructed to acquaint the B.V.A. with this information and to ask the General Secretary to get in touch with Messrs. Harkness and Pettit.

*Membership*

The following gentlemen were nominated for membership: Mr. K. J. Blake, Tavistock; Mr. D. L. Shaw, Axminster; Mr. A. P. Hughes, Yeovil; and Mr. A. K. Rumford, Crediton.

Messrs. Amor and Brook were unanimously elected to membership.

*Discussion on the Cheshire Scheme*

This was opened by the delegates to the combined N.F.U., auctioneers and veterinary surgeons meeting at Taunton. They explained that the meeting would not accept the 28-day period from inoculation to sale, and suggested that the Scheme would break down in that particular area if this period was insisted upon. After considerable discussion the meeting agreed to accept the 14-day period, in view of the Ministry of Agriculture's satisfaction with this arrangement, even though the 28-day period would be more acceptable from a scientific point of view. The Secretary intimated that he would communicate the decision of the W.C.V.A. to the Mid-west, Southern Counties and the Cornish Clinical Club.

Information with regard to the poultry and meat inspection courses brought forth several possible participants.

*Address by Mr. McCrea*

Mr. McCrea then gave his address on pig husbandry which was illustrated with slides and a short film. This most interesting and topical paper was well received by the meeting, and during the discussion many pertinent points were raised and discussed with enthusiasm. The President proposed a vote of thanks which was carried with acclamation.

During the meeting the B.V.A. Handbooks were on sale and several members took the opportunity to collect copies.

*(Concluded at foot of page overleaf)*

# News and Comment

## CLASSIFIED ADVERTISEMENTS

Will readers kindly note that, for the issue of THE VETERINARY RECORD to be published on Easter Saturday, April 1st, *the closing date for classified advertisements will be Monday, March 27th.*

## THE AUTHORISED OFFICERS (MEAT INSPECTION) REGULATIONS, 1961

On August 4th, 1960, the Minister of Agriculture, and the Minister of Health made the Authorised Officers (Meat Inspection) Regulations, 1960, which had the effect of creating a type of officer who could be employed by local authorities in England and Wales as a meat inspector with full powers to examine and seize meat. The qualification required was a special Certificate in Meat Inspection issued by the Royal Society of Health.

The Ministers have now decided to add two further qualifications: the Certificate in Meat Inspection issued by the Royal Sanitary Association of Scotland, and the Certificate for Meat Detention Officers in Northern Ireland issued by the Royal College of Veterinary Surgeons. They have accordingly made the Authorised Officers (Meat Inspection) Regulations, 1961, which came into operation on March 10th, 1961, and which re-enact, with the necessary amendments, the 1960 regulations.

The Ministers have satisfied themselves that the Scottish and Northern Irish qualifications are equivalent in standard to the one that was specially established by the Royal Society of Health. The recognition of these two further qualifications will mean that a useful, though perhaps numerically small, source of manpower will become available to local authorities for meat inspection duties.

## SYMPOSIUM ON "THE EDUCATION OF VETERINARY STUDENTS IN POULTRY DISEASE"

The British Veterinary Poultry Association symposium on "The Education of Veterinary Students in Poultry Disease" will be held at the Royal Veterinary College, London, N.W.1, on April 7th, 1961, at 11 a.m.

The speakers include Professors E. C. Amoroso and J. A. Laing (Royal Veterinary College) and Professor D. L. Hughes (Liverpool), and all those who are interested in the development of the profession in the poultry industry are invited to attend.

Details of the symposium are announced in our Notices at the back of this issue.

## ECONOMICS COMMITTEE REPORT OF THE S.P.V.S.

Several readers who did not see the earlier announcement in THE VETERINARY RECORD have asked the price of this Report. It is 50s. to non-members of the S.P.V.S. and £1 to members. New members may obtain it for £1 in addition to their first year's membership fee which also is £1. The book is available to veterinary surgeons only. Applications should be made to Mr. A. Steele-Bodger, 10, Bore Street, Lichfield, Staffs.

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**Divisional News.**—*Concluded.*

## THE SCOTTISH BRANCH

A meeting of the Scottish Branch was held at the University of Glasgow Veterinary Hospital, Glasgow, on Wednesday, February 22nd, 1961, at 2.30 p.m. The President, Mr. K. P. Anderson, occupied the Chair, and 19 members and 2 visitors signed the Attendance Book. Six Final Year veterinary students were present during the address. Apologies for absence were read from 12 members.

*Minutes*

The minutes of the previous meeting, as published in the SUPPLEMENT to THE VETERINARY RECORD of July 9th, 1960, were taken as read and signed by the President as a true record of the business conducted at that meeting.

*Correspondence*

A letter from the General Secretary of the B.V.A., concerning a resolution passed at the Council of the B.V.A meeting on November 18th, 1960, dealing with the "Cheshire Scheme for Certified Violet Vaccinated Pigs" was read.

*Address by Professor D. S. Hendrie*

The President then introduced the speaker, Professor D. S. Hendrie, Principal of the West of Scotland College of Agriculture, and in doing so referred to Professor Hendrie's distinguished undergraduate and post-graduate career, and said how fortunate the Council was to have persuaded Professor Hendrie to give an address. Professor Hendrie then gave a stimulating and thought-provoking paper entitled "Prospects for British Agriculture." It is hoped that it will be possible to publish this address in THE VETERINARY RECORD at a future date.

The President then called on Professor J. S. S. Inglis to open the discussion. Professor Inglis expressed the view that Professor Hendrie's interesting talk gave a very fair picture of the present position of British agriculture, and the probable lines on which it would develop during the next 10 to 15 years. Messrs. Chapman, Grant, Jennings, McPherson, Ross and Thompson, Professors Mitchell, Weipers, and Doctors Greig and McIntyre then joined in a general discussion on the subject. This active participation by such a large proportion of the members present reflected the great interest in the topics discussed by Professor Hendrie. Professor W. L. Weipers proposed a vote of thanks to the speaker.

At an interval during the discussion, members were entertained to tea by the Glasgow University Veterinary Hospital. A collection on behalf of the V.V.B.F. yielded £1. 18. 0d.

## ANTIBIOTIC SUPPLEMENTATION OF FEEDING STUFFS

Members of the profession will learn with interest that the wording of labels, either to be fixed to containers of antibiotic food-supplements, or to containers of supplemented foods, have been made official by the Ministry of Agriculture. The new wording became obligatory on March 1st after which manufacturers wishing to use other wording are obliged to apply to the Ministry.

The approved labels provide for a description of the antibiotic being used, its quantity etc., and then add the words:—

*In no circumstances should this ration be fed to adult breeding stock, laying poultry or ruminants except under the direction of the veterinary surgeon or practitioner in attendance;*

or alternatively,

*In no circumstances should this supplement be included in rations for adult breeding stock, laying poultry or ruminants except under the direction of the veterinary surgeon or practitioner in attendance.*

## PERSONAL

**Dr. D. E. Stevenson** is visiting the U.S.A. during March in order to attend the meeting of the American Chemical Society concerned with Agricultural Chemicals. He will also be visiting a number of Government and industrial toxicology laboratories.

**Births**

GILL.—On March 7th, 1961, to Betty, wife of Ernest Gill, M.R.C.V.S., Strathmore Gardens, Edgware, a daughter, Tracey Ann, sister for Stephen.

MILLARD.—On March 7th, 1961, to Anne and Roger Millard, M.A., VET.M.B., M.R.C.V.S., Shorthill, Livesey Road, Ludlow, a son, Andrew Stuart.

PICKING.—On February 5th, 1961, to Pat (*née* Alexander), B.VET.MED., M.R.C.V.S., and Bryan Picking, a daughter, Carolyn Jane.

## MR. H. McKEAN

*Mr. R. B. Hornby writes:*—

The tragic passing of Mr. H. McKean, at the early age of 31, was a knock-out blow to his many friends. "Hughie" as he was affectionately known to all, was a very lovable fellow, cheerful in disposition, loyal to his professional ideals, and was a skilful practitioner whose services were appreciated over a wide area of the Fylde. The heartfelt sympathy of all members of the profession is extended to his wife Isabel and son Derek, aged 2½. A wonderful epitaph was found in a letter to his partner from a farmer client and friend of Hugh's, which said, "Yes, it is very true that; a gentleman died yesterday."

## ERRATA

We regret that by inadvertence an error was made in our note (March 4th) on the World Veterinary Poultry Association. The President's chain of office was presented to Professor de Blieck by Dr. Blount; it was not presented to Dr. Blount as stated.

We regret also a printer's error whereby the third symposium of the International Association of Veterinary Food Hygienists was announced to take place in 1961 at Nice; this should have read 1962.

## COMING EVENTS

### March

22nd (Wed.). WARWICKSHIRE VETERINARY CLUB. Joint Meeting with the Midland Counties Veterinary Association in the Regent Hotel, Leamington Spa, 2.30 p.m.

B.S.A.V.A. NORTH EASTERN REGION. Meeting at the Hotel Metropole, King Street, Leeds, 8 p.m.

WEST OF SCOTLAND DIVISION. Meeting at the B.O.C.M. Demonstration Farm, South Cathkin, 2.30 p.m.

SOUTH-EAST MIDLANDS VETERINARY ASSOCIATION. Annual General Meeting at the Franklins Gardens Hotel, Northampton, 7.30 p.m.

MIDLAND COUNTIES VETERINARY ASSOCIATION. General Meeting in conjunction with the Warwickshire Veterinary Club at the Regent Hotel, Leamington Spa, 2.30 p.m.

23rd (Thurs.). WESTERN COUNTIES VETERINARY ASSOCIATION. Annual General Meeting at the Rougemont Hotel, Exeter, 2.30 p.m.

SOCIETY OF WOMEN VETERINARY SURGEONS. Spring Meeting at the School of Veterinary Medicine, Madingley Road, Cambridge, 12.15 p.m.

B.S.A.V.A. MIDLAND REGION. Meeting at the Grand Hotel, Leicester, 8.30 p.m.

27th (Mon.). EAST YORKSHIRE CLINICAL CLUB. Meeting at the Talbot Hotel, Malton, 7 p.m. for first annual dinner.

29th (Wed.). LINCS. AND DISTRICT DIVISION. Meeting at the Grand Hotel, Lincoln, 7.15 p.m.

NORTH WALES DIVISION. Meeting at Bryn Adda, Penrhos Road, Bangor, 2 p.m.

WEST WALES VETERINARY CLUB. Meeting at the Golden Lion Hotel, Carmarthen, 7.30 p.m.

### April

6th (Thurs.). NORTH WILTS. VETERINARY CLUB. Meeting at the Goddard Arms Hotel, Swindon, 7.45 p.m.

7th (Fri.). BRITISH VETERINARY POULTRY ASSOCIATION. Symposium on "The Education of Veterinary Students in Poultry Disease" at the Royal Veterinary College, London, W.1, 11 a.m.

LANCASHIRE VETERINARY ASSOCIATION. General Meeting at the Midland Hotel, Manchester, 7.30 p.m.

8th (Sat.). B.R.X. CLUB. 15th Annual Dinner at the Royal Veterinary College, Camden Town, N.W.1, 6 for 7 p.m.

11th to 13th (Tues. to Thurs.). ASSOCIATION OF VETERINARY TEACHERS AND RESEARCH WORKERS. Annual Conference in the Imperial Hotel, North Promenade, Blackpool, 9.30 a.m.

28th (Fri.). LIVERPOOL UNIVERSITY VETERINARY SOCIETY. Dinner at Reece's Restaurant, 7.30 p.m. for 8 p.m.

29th (Sat.). ASSOCIATION OF STATE VETERINARY OFFICERS. Annual General Meeting in Kent Room, Caxton Hall, London, S.W.1, 4 p.m. Dinner at the Criterion, Piccadilly, 6.30 p.m.

## MEETINGS OF B.V.A. STANDING COMMITTEES AND COUNCIL

*At 7, Mansfield Street, London, W.1.*
*Wednesday, March 29th*
Finance Sub-committee. 5 p.m.

*At the Royal Dick School of Veterinary Studies, Edinburgh*
*Wednesday, April 5th*
Veterinary State Medicine Committee. 10 a.m.
Small Animals Committee. Noon.
Farm Livestock Committee. 3 p.m.

*Thursday, April 6th*
Parliamentary and Public Relations Committee. 10.30 a.m.
Home Appointments Committee. 11.45 a.m.
General Purposes and Finance Committee. 2.15 p.m.

*Friday, April 7th*
Council Meeting. 10 a.m.

## ADDRESSES OF DISEASE INFECTED PREMISES

**The list given below indicates, first the county in which are situated the premises on which disease has been confirmed, followed by the postal address and date of outbreak.**

### Anthrax

*Dumfries.* Blairshinnoch Farm, Kirkgunzeon (Mar. 6).
*Wilts.* Whychurch Farm, Malmesbury (Mar. 6).

### Foot-and-Mouth Disease

*Denbigh.* Tyn-y-Fron, Rhiwlas, Llansilin (Mar. 6).
*Flints.* Tycelyn, Cwm, Rhyl; The Rhyd, Dyserth (Mar. 7); Pont Faen, Rhuddlan (Mar. 13).
*Mont.* White Rock Llanymynech (Mar. 12).
*Salop.* Swancote Farm, Bridgnorth (Mar. 10).
*Staffs.* Field House Farm, Levedale, Dunston (Mar. 7); Abnalls Farm, Lichfield (Mar. 13).

### Fowl Pest

*Bucks.* Elm Farm, Wendover Road, Aylesbury (Mar. 6); Love Green House, Love Green, Iver (Mar. 9).
*Cornwall.* Wellswood, Rezare, Lezant, Launceston (Mar. 8).
*Essex.* Theydon House, 458 Rayleigh Road, Thundersley (Mar. 6); Southleigh, Nevendon Road, Basildon (Mar. 10).
*Glos.* Waterwells Farm, Quedgley (Mar. 10).
*Hants.* Hilcrest, Hollywater Road, Bordon (Mar. 9).
*Lancs.* Bell Dale, Moss Lane, Catforth, Preston (Mar. 6); Roseacre Hall, Roseacre, Kirkham, Preston (Mar. 10); Green Acres, Crofton Road, Farington, Preston (Mar. 13).
*Norfolk.* The Homestead, Hevingham, Norwich (Mar. 6); Broom Cottage, Upgate, Swannington, Norwich; Woodlands, Haverigland, Norwich (Mar. 7); Holly Dale, Mattishall Dereham (Mar. 11); 19 Toftwood, East Dereham (Mar. 13).
*Suffolk.* Hall Farm, Brandon; The Haven, Stanstead, Sudbury (Mar. 8); Home Farm, Hardwick, Bury St. Edmunds (Mar. 13).
*Surrey.* 14 Little Woodcote Estate, Wallington (Mar. 8).
*Yorks.* Spring View, Alverley, Wadworth, Doncaster (Mar. 6).

### Swine Fever

*Ches.* Shaws Farm, Marton, Oakmere, Northwich (Mar. 6).
*Cornwall.* Cox Park, Gunnislake (Mar. 13).
*Devon* Higher St. Andrews Wood Farm, Dulford, Kentisbeare, Cullompton (Mar. 10).
*Durham.* Windy Nook Piggeries, Felling, Gateshead, 10; North Follingsby Farm, Felling (Mar. 13).
*Glam.* Tydraw Farm, Llantrithyd, Cowbridge (Mar. 7); Lletty Wiwer Farm, Glais, Swansea (Mar. 9).
*Glos.* Brick House, Oldcroft, Lydney (Mar. 8); Manor Farm, Hatercup, Cirencester (Mar. 13).
*Lancs.* Damside Farm, Pilling, Preston (Mar. 6); Blackhall Farm, Chipping, Preston (Mar. 8).
*Lincs.* The Bungalow, Kirton Road, Waddingham, Gainsborough (Mar. 10); Low Cross, Haxey (Mar. 13).
*Montgomeryshire.* Lower House, Arddleen, Llanymynech (Mar. 8).
*Staffs.* Grange Hill Farm, Grange Lane, Lichfield (Mar. 7).
*Warwicks.* Manor Farm, Claverdon (Mar. 13).

# Letters to the Editor

***The views expressed in letters addressed to the Editor represent the personal opinions of the writer only and their publication does not imply endorsement by the B.V.A.***

### Temporary Infertility in Bulls

Sir,—On three occasions recently I have come across temporary infertility in bulls following tuberculin testing. This infertility lasts roughtly for one or two months following testing. I would be interested to know whether any colleagues have found the same condition.

Yours faithfully,
E. E. HERROD-TAYLOR.

1, Church Cottage,
Middleton Cheney,
Banbury,
Oxon.
*March 14th*, 1961.

### Local Reactions Following Subcutaneous Injection of "Promintic"

Sir,—A great deal of work has recently been devoted to the new anthelmintic methyridine (*Vet. Rec.*, **73**, 159; 192), and I would like to congratulate those who made this possible. For evaluation of any drug therapy, however, the drawbacks of the product must be known and it may take some years before this is possible. Whoever has the misfortune to experience these drawbacks should make them known. Promintic* does possess certain disadvantages when administered subcutaneously, and these can be so serious in the horse as to preclude its use by this route. The manufacturers have not recommended that the product should be used in this way, but contra-indications have not been noted before.

Recently, 4 pony yearlings, A weighing 210 lb., B, 287 lb., C, 334 lb., and D, 380 lb, were each injected subcutaneously with 20 c.c. Promintic and all reacted locally at the site of injection. In A, B and D the reactions were marked, and in A and B actual chemical necrosis and sloughing occurred. In B, the more chronic reaction, which eventually required simple surgical treatment, the inflammatory process developed to involve the underlying muscle

* I.C.I. Ltd.

where a small area of necrosis was obvious. While it is known that among the domesticated animals the horse most frequently reacts unfavourably to injected materials, reactions are mentioned as occurring in a proportion of both sheep and cattle used in the trials of Promintic. It is felt that these may not be insignificant in cattle, especially in certain areas and among the age groups particularly prone to Clostridial infections whose incidence is influenced by kataphylactic agents. It is hardly necessary to emphasise that there is no evidence that this will occur, but it does seem possible that it might.

I also hope that it is hardly necessary to emphasise how much I regret publishing this detraction from the potential value of methyridine. It is necessary, however, so that similar mishaps following the use of the preparation subcutaneously in the horse, at least, can be avoided.

Yours faithfully,
J. SCARNELL.

The Animal Health Trust,
Equine Research Station,
Newmarket.
*March 9th*, 1961.

### Ear Diseases in Small Animals

Sir,—I have read with great interest the two letters which appeared in your issue of March 4th on the above subject, and fully agree with the sentiments expressed therein.

I, too, am convinced that the large majority of cases are due to the *Otodectes acari*, and for the past 7 years I have very successfully used a preparation appropriately called Otodex. This contains a powerful non-poisonous bactericide, a parasiticide, and a surface anaesthetic, and it seems to be effective on all cases other than purely surgical ones.

I have long ago given up probing into tender ears to clean them out. It is painful even when delicately done and much resented by the patient; it often causes bleeding, and makes the animal more than ever conscious of ear irritation, thus inducing violent scratching and self-inflicted injury.

Otodex never evaporates or dries up, but remains always moist and in close contact with the canal lining and its contained debris. It softens and dislodges the cerumen which the dog or cat can then shake out. The bactericide is equally effective in the presence of blood, discharges or other organic matter, and thus is of great value in otorrhoea. Occasionally I act as locum tenens and I am quite amazed in some practices to find no preparation of value in otacariasis when combined (as often is the case) with otorrhoea. Penicillin is far too frequently used and often with no appreciable effect. Some use the ordinary acriflavine emulsion which is equally ineffective; others use benzyl benzoate which, though antiparasitic, is not an antiseptic, and furthermore is poisonous if ingested. Powders have the disadvantage of clogging into lumps on addition of moisture and acting as a foreign body.

I never advise watery solutions to be introduced into ears, as some always seems to remain and worry the animal. Neither have I ever thought of applying turpentine or methylated spirits to an inflamed and tender ear as I concluded both would be irritant, unkindly and unnecessary. After over 48 years in practice I have had evidence that spt. vini meth. as used daily by the laity "to clean the ear" has resulted in extensive granulations.

If the bland preparation I habitually use were applied once a week to healthy ears, there would never be any more of those frightful haematomata.

Yours faithfully,
HAMILTON KIRK.

Wargrave,
Berks.
*March 8th*, 1961.

### The Closed Shop

Sir,—As Sir Frank Ware is worried about the danger to the profession lurking in a policy of "going it alone" in farm animal work (*Vet. Rec.*, **73,** 43) he can obtain some measure of comfort from a study of the staffing of our schools. The recently issued register of the R.C.V.S. makes this an easy and pleasant exercise that shows a quite liberal sprinkling of non-veterinarians at all centres and in some unexpected subjects.

Having been reassured may I suggest that Sir Frank goes on to examine the staffing of the animal side of agricultural schools (at all levels), N.A.A.S. and some research establishments. He will find that his agricultural friends understand and use the closed shop technique to an extent that makes our legally based efforts appear amateurish.

Our members seem uninterested in this matter, and few members of the public are in a position to offer an informed opinion; but in the national interest there may well be need for some revision in view of the demonstrated weaknesses in the animal side of agricultural education and the relatively large sums of money involved.

That the problem has been tackled elsewhere may be illustrated by the following.

Some years ago a distinguished South American veterinary surgeon, during a tour of institutions in this area, was taken to a hill farming station. In his presence an argument arose over the carrying out of some work on sheep and he was asked about the position in his country. To the obvious embarrassment of most of those present he replied: "There is no such difficulty at home. We are responsible for all animal work as it is believed that the agriculturist has plenty to do with his crops."

Unfortunately the effect of this possible bull point was a further reduction in veterinary participation in the enterprise, probably because the urge for self-preservation is no less strong in the agriculturist dealing with animals than in any of the rest of us.

It may, however, show that the need to broaden horizons and open doors is not confined to the veterinary profession.

Yours faithfully,
JOHN C. GRANT.

Bieldside,
Aberdeen.
*March 6th*, 1961.

### The Future of the Profession

Sir,—I was delighted to read Professor Wright's article in the current VETERINARY RECORD, in which he makes out a case for some form of nationalisation of the profession.

Surely, whilst not wishing to introduce politics into your columns, some form of Socialist government is inevitable in the foreseeable future, so that the profession would be well advised to have some reasonable plan to put to such a government.

Bravo, professor!

Yours faithfully,

7 Silver Crescent, J. F. VINCENT.
Chiswick,
London, W.4.
*March 12th, 1961.*

### The Future of Animal Husbandry in Overseas Territories

Sir,—The contributions of those of us most concerned with the problems so properly raised by Mr. W. C. Miller will of necessity be belated, but I hope they will be none the less acceptable.

As Mr. Matson says, a run-down of tropical veterinary research staffs can be foreseen in the coming years: one may add that this will apply also to field staff. The reasons are not solely related to the current political changes. There is also a summation of frustration and disenchantment which has been brought about by long years of seeing our contribution to the advance of backward territories predominantly rejected by the indigenous peoples. Where one must add deepening concern for the welfare of officers' families, it is only natural that many should take the current opportunity to terminate their service.

This is a background of change which probably no one, neither Governments nor the profession, is in a position to alter, even if they wished to. What is of greater concern is the other point partly raised by Mr. Matson—the very future of tropical veterinary medicine itself. What is going to happen to the technical knowledge and experience held by this small group within our profession when they disperse and enter other fields?

Is it not a matter to be deplored that the nation which brought tropical veterinary science to a quarter of the world's population *has not a single centre of tropical veterinary research in the metropolitan country*? There are certain advantages in having tropical research centres in the tropics; for some purposes it is essential; but for many it is not, and in these days such centres in much of Africa have the great disadvantage of impermanence. Much tropical research could be done better in the United Kingdom than in the tropics, because of the advantages of stable background and continuity, ready association with professional colleagues in all spheres, expert laboratory assistance, and all the technical and intellectual resources of a cultured and civilised country.

Mr. Matson suggests a form of liaison between institutions at home and overseas: this could have been of signal advantage in the past and still has application, but no one conversant with present trends, at least in certain parts of Africa, can regard as other than debatable the future of the research establishments, at any rate in the forms in which they have developed so far. Should not the *centre* be in the United Kingdom, in the form of an institute for tropical veterinary research of the highest calibre? Should not the present overseas institutions be out-stations, valuable, but however much their policies and staffs may vacillate under inexperienced governments, not capable of doing great disservice to the centre?

From the point of view of the slowly emergent indigenous profession in the new countries, such an institute would be a stable centre of training, guidance and support where now no such thing exists. From our own point of view, such a centre would be the means of confirming our stake in an increasingly important branch of science, of maintaining our professional prestige over the 4 tropical continents, and also of providing commerce, in an expanding field, with the knowledge necessary for a people who must export or die.

Yours faithfully,

Iringa, G. H. YEOMAN.
Tanganyika.
*February 27th, 1961.*

### Virus Pneumonia-free Pigs

Sir,—The establishment of virus pneumonia-free pig herds seems to offer a useful means of overcoming this disease which is generally regarded as one of the most serious of pig diseases because it is so widespread and otherwise difficult to control. Evidence has been put forward by certain authorities that where this disease has been eradicated the consequent improvement in the efficiency of food conversion and general profitability have fully justified such an undertaking.

The part played by veterinarians in the advancement of any eradication scheme is a fundamental aspect of the work of the profession concerned with preventive medicine. Because of this we have a duty and a responsibility to the farming community as a whole. It is a fundamental principle of our code of ethics that where veterinary advice is given, the recommendations thus made should be properly understood and the possible hazards made known. That such recommendations are based on sound scientific facts would naturally be a prerequisite of such advice.

There are two aspects of this question which would appear to be fraught with danger. First is that of genetic considerations. The development of A.I. in pigs has been slow, and it may be a long time before the pig farmer can expect the type of service available to the dairy farmer. Because of this, and because of the novelty of the V.P.-free herd scheme, we witness a system of "in breeding" in so-called V.P.-free pigs which would surely make Bakewell turn in his grave. Virtually every female pig born in these already established herds is sold at a premium to help establish new virus pneumonia-free herds elsewhere. How often does the unsuspecting purchaser know of the validity of the claims made for this stock? Not all these

herds are even members of the Association for V.P.-free Herds. The situation has now been reached where many inferior strains of pigs are forming the foundation stock of new herds and still waiting lists for gilts increases.

The second matter which causes me concern is one of the results obtained recently from one of the National Pig Progeny Testing Stations. In answer to my question, the director replied by saying that pigs sent to them from V.P.-free herds took 2 to 4 weeks longer to reach bacon weight than other pigs. He assumed the reason for this was that such pigs had contracted virus pneumonia. In other words, the infection hazard in pigs supposedly free from this disease is very real. Whereas the tuberculin test will detect the presence of TB in cattle, no such live diagnostic test is available for pigs with virus pneumonia and the farmer has no means of compensation in the event of a breakdown as he has with tuberculosis. Furthermore, it should be realised that the establishment of a virus pneumonia-free pig herd is a costly business whether one decides to go virus pneumonia free by careful selection of existing stock or by a process of buying in such pigs. In fact it may well be that the V.P.-free herd of inferior strain may well be less profitable than the pre-eradication herd of superior genetic profit potential.

So far only the larger commercial-type pig producers have embarked on the scheme, but what may be the result when others, not so well suited, attempt such a step? These already established V.P.-free herds have invariably improved their buildings and more especially their management. Would these improvements alone go a long way towards accounting for their improved results? Let us not forget that there are many other serious diseases of pigs in Britain. Surely it would be sound advice for us first to recommend whole-hearted vaccination against swine fever and then, perhaps, to initiate a scheme for the control rather than the complete elimination of so-called virus pneumonia in favour of the present approach, as if it were a magical cure-all the achievement of which is at the moment the Utopia of the pig world.

Yours faithfully,
J. D. P. O'BRIEN.

10, Whitworth Road,
Sheffield, 10.
*March 1st*, 1961.

**An Unexplained Condition in Pregnant Ewes**

Sir,—I am writing to enquire if other readers can help throw any light on a peculiar condition we have seen this season in heavily pregnant ewes. The ewes are found either dead or dying with the small intestine prolapsed through a tear in the wall of the vagina close to the cervix. These ewes have not previously shown any signs of illness or evidence of a prolapsed vagina.

The first case, seen in late November on farm "A" about 3 miles south of Salisbury, was in a Dorset Horn ewe, found dying at midnight inspection of the lambing ewes. Vaginal examination revealed a rent in the vaginal wall with the cervix closed. This case was dismissed as an unusual accident.

The second incident, in February, was on farm "B," lying 8 miles north of Salisbury, when 4 Border Leicester ewes, all within a fortnight of lambing, were found dead, one on each of 4 separate mornings. Careful *post-mortem* examination revealed no lesion except the tear in the vaginal wall with haemorrhage into the wall of the vagina and a considerable portion of small intestine protruding from the vulva.

After all reasonable explanations were exhausted it was decided that it must be the work of a sadist. This was to some extent supported by the fact that one or two similar cases had occurred on the farm in previous years and also by the fact that out of 700 ewes all had occurred in one age group of older ewes which were particularly tame. These ewes were parted from the rest of the flock and moved about one and a half miles away. No further cases occurred.

The third incident on farm "C" in early March, was also in Border Leicester ewes. In this case the farm was 25 miles east of Salisbury. A ewe was brought to the surgery for a *post-mortem* examination with a history of being found dying in the morning. Examination showed a tear in the vagina similar to that in the other cases. Enquiry revealed that 2 other ewes had been found dead within the last week with a similar prolapse of intestine.

No new worker had come on to the farm recently. By this time it was felt that coincidence was being strained to the limit if one was to believe that 3 cases of sadism should occur in this area within such a short time.

I should be interested to hear if other readers have met this condition and also what is the logical explanation.

Yours faithfully,
J. B. WHITE.

49, Endless Street,
Salisbury,
Wilts.
*March 10th*, 1961.

**Fixed Vegetable Oil as Antidote to Clover Poisoning**

Sir,—There can be few if any countries better suited for the study of clover poisoning than Tasmania; and the tersm "poisoning" is used here for convenience because of uncertainty about the ways in which clover exerts its various pathogenic effects. For some of these effects "sensitivity" might be a better word.

After a wet winter and continuing spring rains, Wild White clover (*T. repens*) completely dominates the pastures in Northern Tasmania from about September 15th to December 15th on most dairying properties. Even on a large farm, when the owner is asked to move cases of clover-poisoning, if he can, to a paddock with grass instead of all-clover, the reply often is that there is no such paddock on the property. The only alternative to lush clover is, usually, a yard with hay feeding.

Documentary proof of the accuracy of diagnosis of clover poisoning in the Tasmanian spring is obtainable from a comparison of the practitioner's diary with the meteorological statistics for a given year. In 1958, for instance, after an abnormally wet winer and heavy spring rains, my diary shows that calls to farms on account of clover poisoning between September 15th and December 15th numbered 56. The number of actual cases would be much greater because several in that year were often seen at a single visit. In 1959 the winter rains failed, and my diary shows only 5 calls to farms on account of clover poisoning between mid-September and mid-December. In 1960 there were fairly good winter rains but a dry spring, and the calls to farms on account of clover poisoning were 23. The calls stopped short early in November because of the almost total overtaking of the clover by grass in the complete absence of spring rains. This growth sequence is said to have happened last in 1914.

Clover poisoning in Tasmania takes too many forms to permit of full description in a letter so must be omitted. Dairy cows mostly contract clover poisoning by being held in a yard during the milking of the herd for as long as 2 hours, and then turned out on to lush clover while ravenously hungry. Farmers who are careful to blunt the appetite of the cows by feeding plenty of hay in a small bare paddock or yard before turning the herd on to lush clover after milking escape serious losses. Apart from bloat, death from clover poisoning in dairy cows in Tasmania is unusual, but the losses in milk and cream production can be heavy. Production may fall by more than 50 per cent. in a case of clover poisoning on the first day, and it is this loss that frightens the farmer and evokes a call for veterinary attendance.

Up to 1958 one knew of no specific antidote to clover poisoning. Cases were treated symptomatically and might as well have been left alone as a rule with considerable saving in the cost of antibiotics and antihistamine drugs. But in 1958 something happened which changed all that for the writer and the farmer, and, one believes, for the cow.

On October 17th, 1958, at 7.30 a.m. a call came from a reliable and sagacious farmer to say that one of his young cows which had been turned out after milking to graze with the herd was in agony and out of control. On arrival at the farm 40 minutes later the cow was found fully recovered. The owner explained that while waiting for veterinary help he could not bear to see the animal in such agony without doing something, so gave her all he had—a half bottle of raw linseed oil. In awed tones he said: "You could see her getting better almost as soon as she swallowed the oil and she was right in about a quarter of an hour. I did not try to stop you from coming because I wanted to know what happened to the cow."

One had been studying the latest reports from New Zealand on the effect of spraying pastures with oil to prevent bloat, and it seemed not unreasonable to suppose that oil in bulk poured down the gullet might have a curative effect on a cow thus suddenly sickened by ravenous eating of lush clover after milking. One is not so naïve as to take a single instance as positive proof, but on 3 subsequent occasions, when a telephone message has come at a time when it did not suit me to attend similar cases the owner has been advised to drench with oil. The results have been similar to the first case. From that day in October, 1958, to the present time raw linseed or peanut oil, in varying doses up to one pint, has been prescribed for every case of clover poisoning in my practice with good results and satisfaction to all concerned. The fact that most impresses is the speed of the curative effect in early cases.

Following the deluge in the Australian winter of 1958, an epizootic of a so-called "virus diarrhoea" of dairy cows (other types of cattle were not affected) swept through S.E. Australia including Tasmania. The specific cause was shown to be a virus, but in Tasmania at least the dominant Wild White clover played a significant part. Those farmers who systematically blunted the appetite of their cows by ample hay feeding before turning them out on the clover after milking, either suffered little or escaped altogether. On that minority of farms where Wild White clover did not dominate the pasture there was little or no diarrhoea.

All farms in my district who asked for help in the epizootic were advised to drench every scouring cow with at least half a bottle (13 ounces) of raw linseed or peanut oil, and all reported good results. Some reported spectacular results, with the diarrhoea stopping by the next day. In some small herds near my home I drenched the cows myself and checked up on them the following day, when the diarrhoea had usually stopped. On one small property 2 cows were both scouring and one was bloated to a critical extent. This cow had to be punctured in 2 places to relieve a near-fatal gas pressure in the rumen. Both had fairly high temperatures. Both were drenched with a pint of peanut oil and both were normal on the following day, including a return of milk production.

Some of the cures reported by farmers after drenching with oil would, we know, have occurred anyway because of the self-limiting nature of clover poisoning. But not all, and not so quickly, nor with so speedy a return to full milk production in the majority of cases. It is this quick return to milk production that matters so much to the farmer at the very peak of the spring milk harvest, at a time when a plague of diarrhoea has halved the output of butter from some of the factories.

No doubt in these abnormal sunspot times there will be more abnormally wet winters and springs in S.E. Australia, more dominant clover crops, and more epizootics of diarrhoea in dairy cows. The object of my letter is to offer evidence in support of a promising line of prevention and treatment in the absence of other, and perhaps better proposals, not yet discoverable in any literature available here.

Yours faithfully,

J. W. RAINEY.

P.O. Box 67,
Westbury,
Tasmania.

*February 26th* 1961.